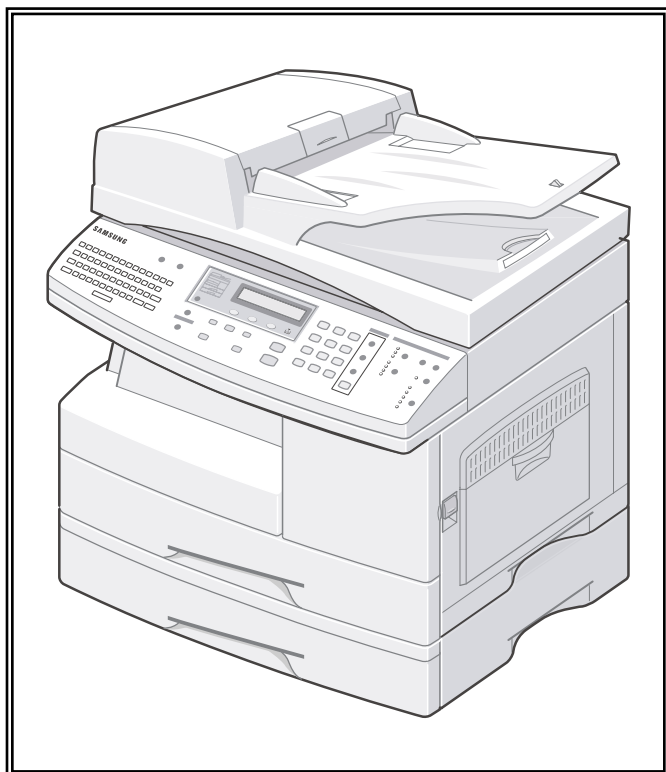


SAMSUNG

DIGITAL LASER MFP
SCX-6320F Series
SCX-6320F
SCX-6220

SERVICE *Manual*

DIGITAL LASER MFP



CONTENTS

1. Precautions
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1. Precautions

In order to prevent accidents and to prevent damage to the equipment please read the precautions listed below carefully before servicing the printer and follow them closely.

1.1 Safety Warning

- (1) Only to be serviced by appropriately qualified service engineers.

High voltages and lasers inside this product are dangerous. This printer should only be serviced by a suitably trained and qualified service engineer.

- (2) Use only Samsung replacement parts

There are no user serviceable parts inside the printer. Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire hazards.

- (3) Laser Safety Statement

The Printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class 1(1) laser products, and elsewhere, it is certified as a Class I laser product conforming to the requirements of IEC 825. Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning >> Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes. When using this product, these basic safety pre-cautions should always be followed to reduce risk of fire, electric shock, and injury to persons.



CAUTION - INVISIBLE LASER RADIATION
WHEN THIS COVER OPEN.
DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG,
WENN ABDECKUNG GEFFNET.
NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS
D'OUVERTURE. EXPOSITION DANGEREUSE
AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBILE IN CASO DI
APERTURA. EVITARE L'ESPOSIZIONE AL
FASCIO.

PRECAUCION - RADIACION LASER INVISIBLE CUANDO SE ABRE.
EVITAR EXPONERSE AL RAYO.

ADVARSEL - USYNLIG LASERSTRÅLING VED ÅBNING, NÅR
SIKKERHEDSBRYDERE ER UDE AF FUNKTION.
UNDG. UDSÆTTELSE FOR STRÅLING.

ADVARSEL - USYNLIG LASERSTRÅLING NÅR DEKSEL
ÅPNES. STIRR IKKE INN I STRÅLEN.
UNNG. EKSPONERING FOR STRÅLEN.

VARNING - OSYNLIG LASERSTRÅLING NÅR DENNA DEL
ÅPPNAD OCH SPÄRREN ÅR URKOPPLAD.
BETRAKTA EJ STRÅLEN. STRÅLEN ÅR FARLIG.

VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA
OLET ALTTIINA NÄKYMÄT MÄLLE LASER-
SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

注 意 - 严禁揭开此盖, 以免激光泄露灼伤

주 의 - 이 덮개를 열면 레이저광에 노출될 수 있으므로
주의하십시오.

1.2 Caution for safety

1.2.1 Toxic material

This product contains toxic materials that could cause illness if ingested.

- (1) If the LCD control panel is damaged it is possible for the liquid inside to leak. This liquid is toxic. Contact with the skin should be avoided, wash any splashes from eyes or skin immediately and contact your doctor. If the liquid gets into the mouth or is swallowed see a doctor immediately.
- (2) Please keep toner cartridges away from children. The toner powder contained in the toner cartridge may be harmful and if swallowed you should contact a doctor.

1.2.2 Electric Shock and Fire Safety Precautions

Failure to follow the following instructions could cause electric shock or potentially cause a fire.

- (1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a fire or electric shock.
- (2) Use only the power cable supplied with the printer. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.
- (3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.
- (4) Do not allow water or other liquids to spill into the printer, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the printer these could cause a short circuit leading to an electric shock or fire hazard..
- (5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the printer remove the power plug from the wall socket.
- (6) Use caution when inserting or removing the power connector. The power connector must be inserted completely otherwise a poor contact could cause overheating possibly leading to a fire. When removing the power connector grip it firmly and pull.
- (7) Take care of the power cable. Do not allow it to become twisted, bent sharply round corners or other wise damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a fire or exposed cables could cause an electric shock. Replace a damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can attack the coating on the power cable, weakening the cover or exposing cables causing fire and shock risks.
- (8) Ensure that the power sockets and plugs are not cracked or broken in any way. Any such defects should be repaired immediately. Take care not to cut or damage the power cable or plugs when moving the machine.
- (9) Use caution during thunder or lightening storms. Samsung recommend that this machine be disconnected from the power source when such weather conditions are expected. Do not touch the machine or the power cord if it is still connected to the wall socket in these weather conditions.
- (10) Avoid damp or dusty areas, install the printer in a clean well ventilated location. Do not position the machine near a humidifier. Damp and dust build up inside the machine can lead to overheating and cause a fire.
- (11) Do not position the printer in direct sunlight. This will cause the temperature inside the printer to rise possibly leading to the printer failing to work properly and in extreme conditions could lead to a fire.
- (12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.

1.2.3 Handling Precautions

The following instructions are for your own personal safety, to avoid injury and so as not to damage the printer

- (1) Ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall.
- (2) The printer contains many rollers, gears and fans. Take great care to ensure that you do not catch your fingers, hair or clothing in any of these rotating devices.
- (3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the printer which if spilled could get into the machine and cause damage or a shock or fire hazard.
- (4) Do not install the machine in areas with high dust or moisture levels, beside an open window or close to a humidifier or heater. Damage could be caused to the printer in such areas.
- (5) Do not place candles, burning cigarettes, etc on the printer, these could cause a fire.

1.2.4 Assembly / Disassembly Precautions

Replace parts carefully, always use Samsung parts. Take care to note the exact location of parts and also cable routing before dismantling any part of the machine. Ensure all parts and cables are replaced correctly. Please carry out the following procedures before dismantling the printer or replacing any parts.

- (1) Check the contents of the machine memory and make a note of any user settings. These will be erased if the mainboard or network card is replaced.
- (2) Ensure that power is disconnected before servicing or replacing any electrical parts.
- (3) Disconnect printer interface cables and power cables.
- (4) Only use approved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct.
- (5) When removing or re-fitting any parts do not use excessive force, especially when fitting screws into plastic.
- (6) Take care not to drop any small parts into the machine.
- (7) Handling of the OPC Drum
 - The OPC Drum can be irreparably damaged if it is exposed to light. Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 mins can damage the surface's photoconductive properties and will result in print quality degradation. Take extra care when servicing the printer. Remove the OPC Drum and store it in a black bag or other lightproof container. Take care when working with the covers (especially the top cover) open as light is admitted to the OPC area and can damage the OPC Drum.
 - Take care not to scratch the green surface of the OPC Drum Unit. If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

1.2.5 Disregarding this warning may cause bodily injury

(1) Take care - some parts may be hot.

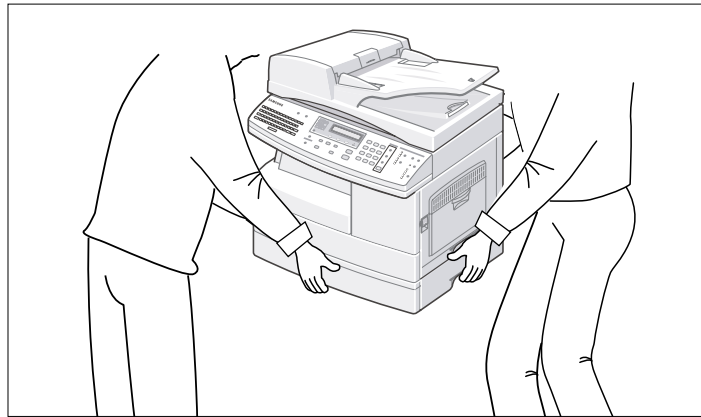
The fuser unit works at a high temperature. Use caution when working on the printer. Wait for the fuser to cool down before disassembly.

(2) Take care not to trap fingers or hair.

Take care when using a printer. It contains many rotating parts. Ensure that fingers, hair, clothing etc. do not become caught in the mechanism as this could cause injury.

(3) When you move the printer.

This printer weighs 32kg including toner cartridge and cassette. Use safe lifting and handling techniques. Use the lifting handles located on each side of the machine. Back injury could be caused if you do not lift carefully.



(4) Ensure the printer is installed safely.

The printer weighs 32Kg, ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

(5) Do not install the printer on a sloping or unstable surface. After installation, double check that the printer is stable.

1.3 ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices”, or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components.

The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.

Caution >>Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

1. Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, which should be removed for your personal safety reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
3. Use only a grounded tip soldering iron to solder or desolder ESDs.
4. Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
7. Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
8. Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
9. Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one's foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

1.4 Super Capacitor or Lithium Battery Precautions

1. Exercise caution when replacing a super capacitor or Lithium battery. There could be a danger of explosion and subsequent operator injury and/or equipment damage if incorrectly installed.
2. Be sure to replace the battery with the same or equivalent type recommended by the manufacturers.
3. Super capacitor or Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.
4. Dispose of used batteries according to the manufacturer's instructions.

MEMO



2. Reference Information

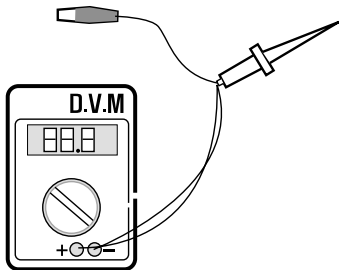
This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of test pages and Wireless Network information definition is also included.

2.1 Tool for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

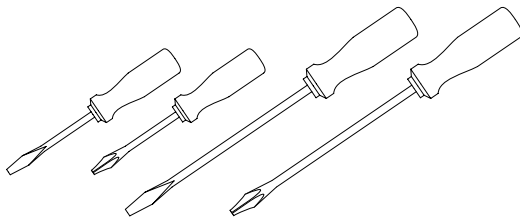
- **DVM (Digital Volt Meter)**

Standard : Indicates more than 3 digits.



- **Driver**

Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



- **Tweezers**

Standard : For general home use, small type.



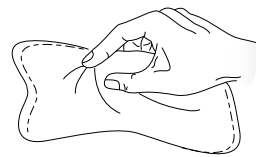
- **Cotton Swab**

Standard : For general home use, for medical service.

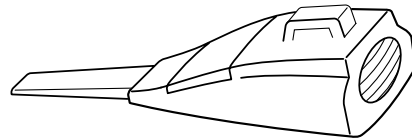


- **Cleaning Equipments**

Standard : An IPA (Isopropyl Alcohol) dry wipe tissue or a gentle neutral detergent and lint-free cloth.



- **Vacuum Cleaner**

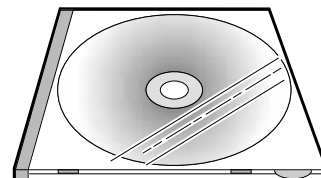


- **Spring Hook**

Standard : For general use



- **Software (Driver) installation CD ROM**



2.2 Acronyms and Abbreviations

The table below explains abbreviations used in this service manual.

The contents of this service manual are declared with abbreviations in many parts. Please refer to the table.

2.2.1 General

AC	Alternating Current	IC	integrated circuit
ADF	Automatic Document Feeder	IDE	Intelligent Drive electronics or Imbedded Drive Electronics
ASIC	Application Specific Integrated Circuit	IEEE	Institute of Electrical and Electronics Engineers. Inc
ASSY	assembly	IPA	Isopropyl Alcohol
BIOS	Basic Input Output System	IPM	Images Per Minute
CCD	Charge Coupled Device	LAN	local area network
CMOS	Complementary Metal Oxide Semiconductor	lb	pound(s)
CN	connector	LBP	Laser Beam Printer
CON	connector	LCD	Liquid Crystal Display
CPM	Copies Per Minute	LED	Light Emitting Diode
CPU	Central Processing Unit	LSU	Laser Scanning Unit
CRU	Customer Replaceable Unit	MB	Megabyte
CRUM	CRU Memory	MFP	Multi-Functional Product
dB	decibel	MHz	Megahertz
dbA	decibelampere	MP	Multi Purpose
dBm	decibel milliwatt	NVRAM	Nonvolatile random access memory
DADF	Duplex Auto Document Feeder(=DADH)	OPC	Organic Photo Conductor
DC	direct current	PBA	Printed Board Assembly
DCU	Diagnostic Control Unit	PCL	Printer Command Language , Printer Control Language
DPI	Dot Per Inch	PDL	Page Discription Language
DRAM	Dynamic Random Access Memory	PPM	Page Per Minute
DVM	Digital Voltmeter	PS/3	Post Script Level-3
ECM	Error Correction Mode	PTL	Pre-Transfer Lamp
ECP	Enhanced Capability Port	Q'ty	Quantity
EEPROM	Electronically Erasable Programmable Read Only Memory	RAM	Random Access Memory
EMI	Electro Magnetic Interference	ROM	Read Only Memory
EP	electrophotographic	SCF	Second Cassette Feeder
EPP	Enhanced Parallel Port	SMPS	Switching Mode Power Supply
FCOT	First Copy Out Time	SPGP	Samsung Printer Graphic Processor
FPOT	First Print Out Time	SPL	Samsung Printer Language
F/W	firmware	Spool	Simultaneous Peripheral Operation Online
GDI	graphics device interface	SW	Switch
GND	ground	Sync	Synchronous or synchronization
HBP	Host Based Printing	TBD	To Be Determined
HDD	Hard Disk Drive	USB	Universal Serial Bus
HV	high voltage	W x D x H	Width x Depth x Height
HVPS	High Voltage Power Supply		
I/F	interface		
I/O	Input and Output		

2.2.2 Service Parts

ACRONYM	EXPLANATION
ELA HOU-SCANNER ASS'Y	ELA=Electrical Assembly, HOU =Housing
MEA UNIT-COVER PA EXIT ASS'Y	MEA= Mechanical Assembly, PA=Paper
PMO-TRAY EXTENTION MP NE	PMO= Processing Mold MP=Multi-Purpose(Bypass) tray NE=for NEC (common as Samsung Halk printer)
MEC-CASSETTE ASS'Y(LETTER)	MEC = Mechanic Combined unit
COVER-M-FRONT	M=Mold
MPR-NAME/PLATE	MPR= Machinery Press,
UNIT-LSU	LSU =Laser Scanning Unit
SMPS-SMPS(V1)+HVPS	SMPS =Switching Mode Power Supply HVPS =High Voltage Power Supply
ELA-OPC UNIT SET	OPC=Organic Photo-Conductive
ELA HOU-MP ASS'Y	MP =Multi-Purpose (Bypass) tray
PBA MAIN-MAIN	PBA =Printed circuit Board Assembly
PMO-CONNECT PAPER MFP	MFP =Multi-Functional Peripheral
FAN-DC	DC =Direct Current
CBF POWER STITCH GRAY	CBF= Cable Form
MEA UNIT GUIDE CST PA ASS'Y	CST=Cassette(Paper tray), PA=Paper
PBA LIU	PBA =Printed circuit Board Assembly LIU =Line Interface Unit for FAX
SHIELD-P_MAIN LOWER	P=Press
CBF HARNESS-LIU GND	LIU =Line Interface Unit for FAX GND= Ground
PMO-COVER FEED AY	AY=Assembly
PMO-COVER BRKT MOTER	BRKT=Bracket
CBF HARNESS-LSU	LSU =Laser Scanning Unit
IPR-SHIELD SMPS UPPERI	IPR=Iron Press
PMO-BUSHING P/U.MP	P/U=Pickup MP=Multi-Purpose (Bypass) Tray
PMO-HOLDER GEAR TRr	TR= Transfer Roller
SPRING ETC-TR_L	TR_L=Transfer Roller - Left

ACRONYM	EXPLANATION
PMO-CAM JAM REMOVE	PMO-CAM= Processing Mold-CAM
PMO-LOCKER DEVE	DEVE=Developer
SPECIAL SCREW(PANNEL MFP)	MFP =Multi-Functional Peripheral
A/S MATERAL-DUMMY UPPER ASS'Y	A/S=After-Service
MCT-GLASS ADF	MCT= Machinery Cutting ADF=Automatic Document Feeder
PPR-REGISTRATION EDGE(F)	PPR= Processing Press
IPR-HOLDER GLASSI	PR=Iron Press
MCT-GLASS SCANNER(LEGAL)	MCT= Machinery Cutting
CBF HARNESS-OPE	OPE=Operation Panel(Control Panel)
PBA SUB-D_SUB	PBA SUB-D_SUB =>Sub Printed circuit Board Assembly for the D-SUB type electrical connector (D-Sub) a kind of the connector type(shape 'D')
COVER-M-CCD CABLE	M=Mold CCD=Charge Coupled Device
COVER-SCAN LOWER(UMAX)	UMAX=> Supplier's name for CCD module
ICT-INSERT SHAFTI	ICT= Iron Cutting
IPR-BRK SCAN BD	IPR=Iron Press BRK=Bracket BD= Board
CBF SIGNAL-CCD FFC	CCD = Charge Coupled Device FFC =Flexible Flat Cable
COVER-M-OPE	M=Mold OPE=Operation Panel(Control Panel)
KEY-M-COPY	M=Mold
PLATE-M-ALPHA KEY	M=Molde ALPHA=Alphabet
PMO-GUIDE DP SIDE	DP=Duplex
RING-CS	CS= Compress
GEAR-MP/DUP DRV	MP =Multi-Purpose (Bypass) tray DUP DRV = Duplex Driver
IPR-BRKT G DUPI	PR=Iron Press BRKT=BRACKET G= Ground DUP=Duplex
PMO-BUSHING TX(B4)	TX=Transmit
PMO-TRAY CASE, MP	MP=Multi-Purpose tray(Bypass tray)

ACRONYM	EXPLANATION
SPRING CS RE	CS=Compress RE=Rear
SPRING CS FR	CS=Compress FR=Front
PMO-BUSHING FINGER, F	F=Front
ICT-SHAFT-EXIT LOWER ID	ID=Idler
SPRING-EXIT ROLL FD	FD=Face Down
PMO-BUSHING_P/U,MP	P/U=Pickup MP =Multi-Purpose (Bypass) tray
PMO-HOLDER CAM MPF	MPF=Multi-Purpose Feeder(=MP)
PMO-GEAR P/U MPF	P/U=Pickup
MFP =Multi-Functional Peripheral	
RPR-RUBBER PICK UP,MP	RPR=Rubber Press
PBA SUB-MP SEN	PBA SUB-MP-SEN =>Sub Printed circuit Board Assembly for the MP-SEN(= Multi-Purpose (Bypass) tray-Sensor)
A/S MATERIAL-PICKUP,MP	
FOOT-ML80	
HOLDER CATCH CST MC2	MC2=>McKinley2 (Samsung Project code name)
IPR-GROUND PLATE A(OPC)	OPC=Organic Photo-Conductive
ELA M/M-AUD SPEAKER	ELA M/M => Electrical Assembly M/M AUD=Audio
CBF HARNESS-OPC GND	OPC GNG=Organic Photo-Conductive-Ground
IPR-GROUND PLATE SCF	SCF=Second Cassette Feeder(Tray2)
PBA SUB-PTL	PBA SUB-PTL=>Sub Printed circuit Board Assembly for the PTL(= Pre Transfer Lamp)
PBA SUB-FEED+P.EMP SEN.	PBA SUB-FEED=>Sub Printed circuit Board Assembly for the feeder EMP SEN=Empty Sensor
MOTOR STEP-MCK2(MAIN)	
GEAR-EXIT/U	EXIT/U=EXIT/Upper
GEAR-RDCN FEED INNER	RDCN=Reduction
CBF-HARNESS-MAIN-THV WIRE	THV =Transfer High Voltage
CBF-HARNESS-MAIN-MHV WIRE	MHV= High Voltage(Charge Voltage)

ACRONYM	EXPLANATION
GEAR-EXIT/U,ID	U=Upper ID=Idler
IPR-TERMINAL FU	FU=Fuser
PMO-BEARING H/R-F	H/R-F=Heat Roller - Front
BEARING-H/R L	H/R-L=Heat Roller -Left
PEX-ROLLER EXIT F_UP	PEX= Processing Extrude F_UP=Face Up
SPRING ETC-P/R	P/R=Pressure Roller
SPRING(R)-CAU-HOT-FU	CAU-HOT-FU = Caution Hot -Fuser
PMO-ARM ACTUATOR	PMO-ARM= Processing Mold Arm
LABEL(R)-HV FUSER	HV=High Voltage (220V)
LABEL(R)-LV FUSER	LV=Low Voltage (110V)
PPR-SPONG SHEET	PPR=Plastic Press
IPR-P_PINCH(SCAN)I	PR-P = Iron Press
ROLLER-REGI	REGI=Registration
PBA SUB-REGI	PBA SUB-REGI => Sub Printed circuit Board Assembly for the Registration
GROUND-P_SCAN ROLLER	GROUND-P =Ground-Press
IPR-GUARD C/O S/W	C/O = Cover Open S/W= Switch
MEA UNIT-TX STACKER	TX =Transmit
IPR-WASHER SPRING CU	CU=Curve

2.3 The Sample Pattern for the Test

The sample pattern shown in below is the standard pattern used in the factory.

The life of the toner cartridge and the printing speed are measured using the pattern shown below.

(The image is 70% of the actual A4 size).

2.3.1 A4 5% Pattern

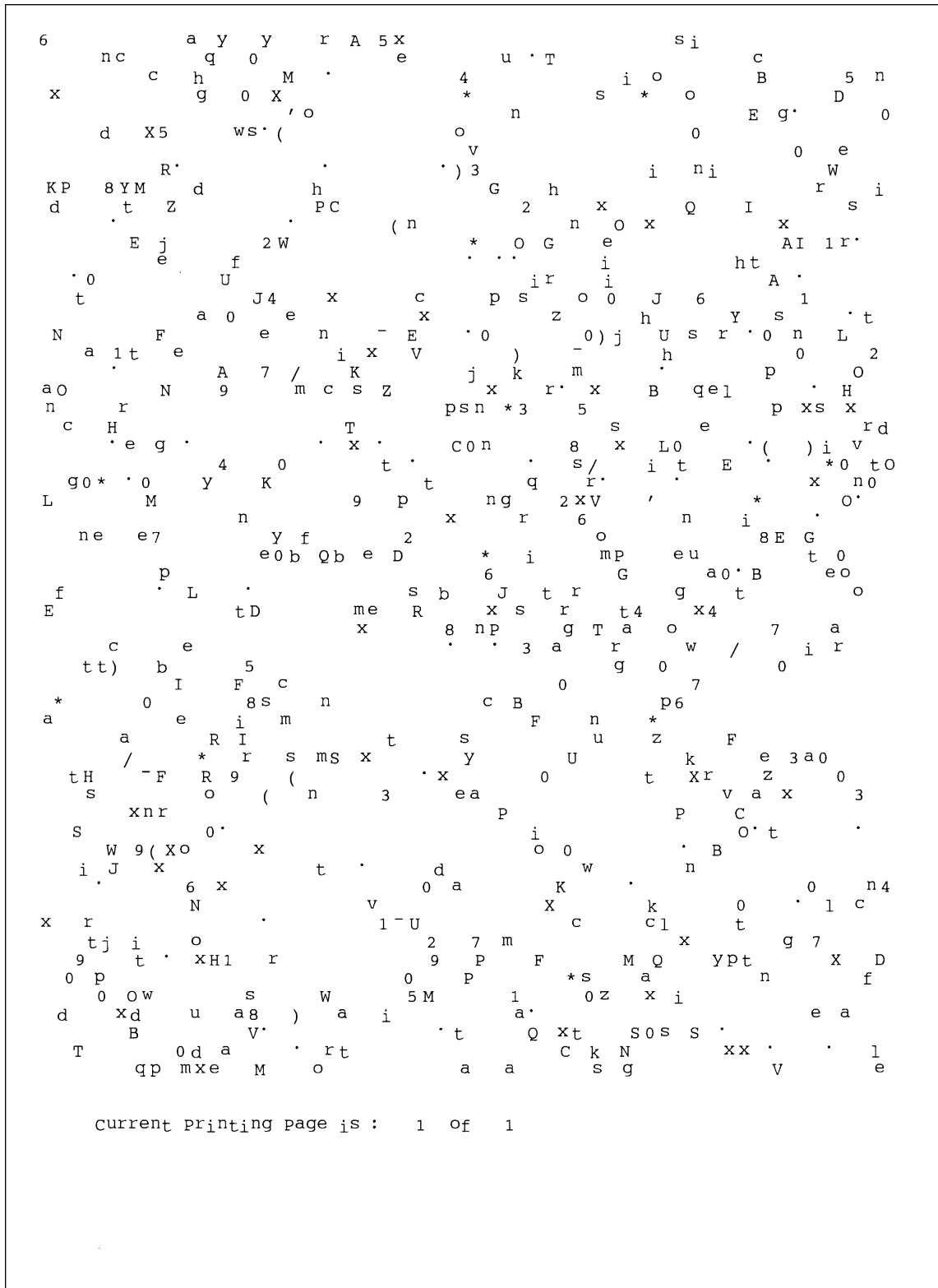
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a 0/*  p  8  ur  o  f  o t a  ip p no  e
es  pn .i* i .t) .t W 5A * iyn t I  o stn rtx
   n t e' s ev  s n x ( xen eo  Xw  td l' -
Ui  c i7  e )SPX  m uros3*is s .n n M  o  l  L-g
at *sUrN2  7e u l X  o o tH-res c  p eo  W
5*  oe  o(  Q  F0P nN  *  em.r*ud e  t  MM  c iox5
iog  s- a  os on  d b so'6p  s 6At  eo . n s
Hist  0  J  t R  6  ei T  rJ iil' i o  ank'
p  r e r0  F  Bui  op MM eoM 0  00 1Ee u  e B u
q  t i o xB iO *hn t r i  a ses "  t X t t s  n
m) g  p d G  F I  soy  Ors fE*0 o  Ie hd e  n
p  gnO' t H  r s  nZE  e  iea  p  * t  - P/4e l
t  E oo  w a g  e  s6 n oc xpc  -w n
d  X  er s  t  o t  idt *o s 0' P  e  t il/R e
XX  i g  i e fg s  p  C  . m  x h te C  g os ta  e
pa(oo n/t00'ozdI  dno  x .p  O W ae  or R  t icF
(l  xa B  co o s  )r s  8Y*x  toe'  ie  t  o  ah
r  B 0  rlr  d  t .l  Ei et0Da h  n s7
c  - s oolo t  ga 'r  FM *d  i*s 0 x  o pe  *

```

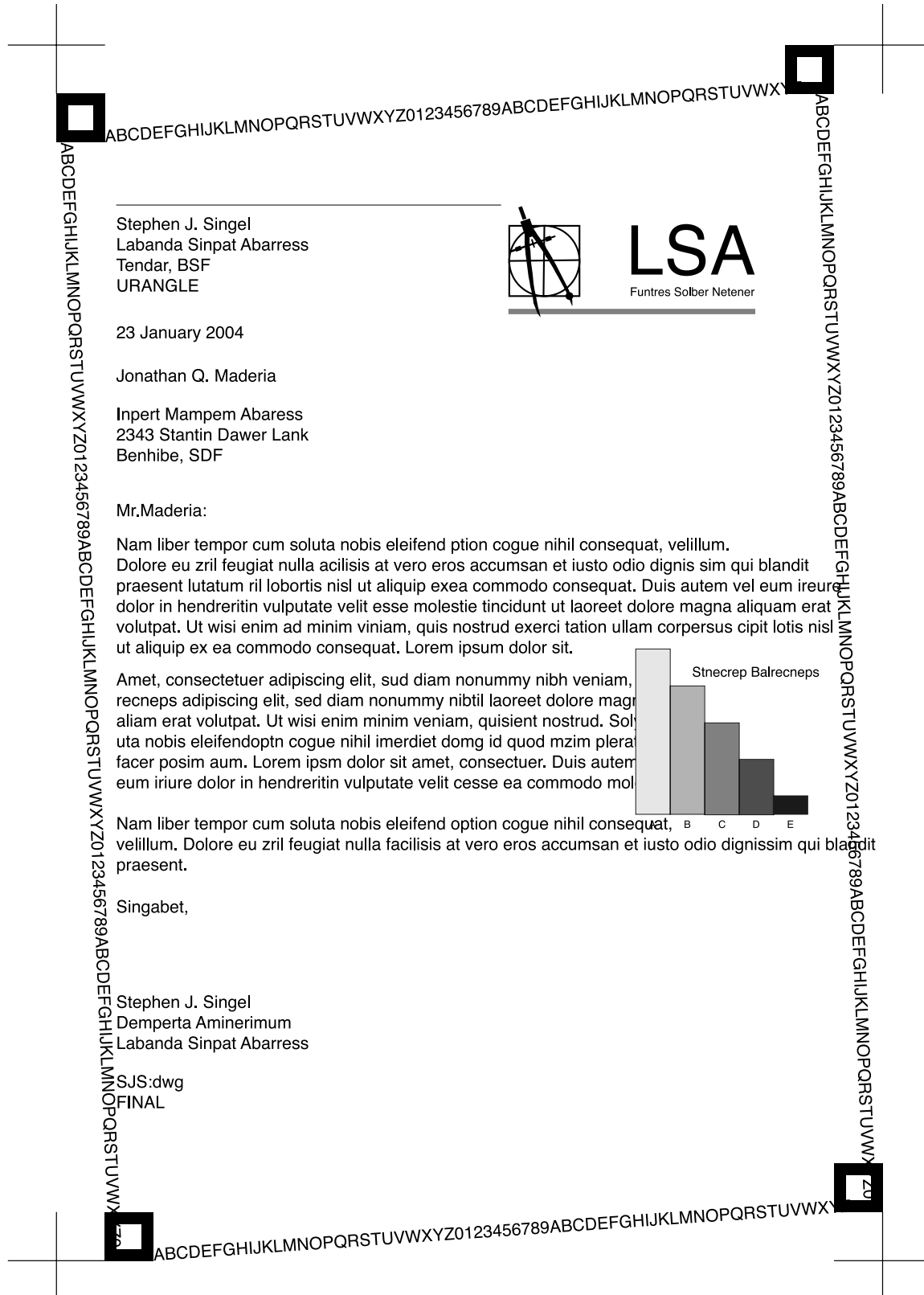
current printing page is : 1 of 1

2.3.2 A4 2% Pattern



2.3.3 A4 ISO 19752 Standard Pattern

This test page is reproduced at 70% of the normal A4 size



2.4 Wireless LAN

- This product uses a printing function with a wireless LAN, which is an option.
 - The wireless LAN function uses a frequency instead of connecting LAN cable to connect data to an access point for print.
 - For a wireless LAN connection, an AP is needed, It is possible to use wireless LAN onnection with wired LAN. Also, if AP is installed in an office or at home, the wireless LAN function can be simply used.
- Types of desk top PC (or Lap top) that uses the wireless LAN.

Division	Basic type	Recommend type
CPU	Over PENTIUM 233M	PENTIUM 300MHz
MEMORY	Over 64MB	Over 128MB
VIDEO CARD	Over 800X600	Over 1024X768
OS	Over WINDOWS 98	Over WINDOWS ME
INTERFACE CARD	A product has a certificated mark of Wi-Fi™	

- **About the certificated mark of Wi-Fi™**



- The Wi-Fi™ is a registered trademark of WECA (Wireless Ethernet Compatibility Alliance). Over 50 of a wireless LAN companies are member of it. The most of main wireless networking companies are attending and the main companies are Lucent technologies, Cisco, Intel/Symbol, 3Com, Enterasys (Cabletron), Compaq, IBM, Nokia, Dell, Philips, Samsung electronic, Sony, Intersil, and so on. This mark certifies mutual compatibility among product has Wi-Fi™ (IEEE 802.1) and it is certified as a standard of a wireless LAN market.

MEMO

3. Specifications

Specifications are correct at the time of printing. Product specifications are subject to change without notice. See below for product specifications.

3.1 General Specifications

Items	Description
Type of Unit	Desktop
Operation System	Win95/98/ME/ NT 4.0/2000/XP
Duplex Printing	Yes(Default:OFF)
Interface	IEEE1284(ECP) USB(without HUB mode)
CPU	120 MHz(ARM946ES), 32bit RISC Processor
System Memory	32MB
Warming up Time	40 Sec (Stand-By), 25°C
Absolute Storage Condition	Temperature : -20°C ~ 40°C, Humidity : 10% RH ~ 95% RH
Operating Condition	Temperature : 10°C ~ 32°C, Humidity : 20% RH ~ 80 % RH
Recommended Operating Condition	Temperature : 16°C ~ 30°C, Humidity : 30% RH ~ 70% RH
Dimension(W X D X H)	Basic : 554.5 X 433.9 X 459.1 mm(DADF attached) Extended : 554.5 X 433.9 X 459.1 mm(DADF & Tray2 attached)
Weight	About 32Kg(with CRU)
* Acoustic Noise	Warming up : under 48dB Standby : under 40dB During Printing / Scanning / Copying : under 65dB
Power Rating	AC 100VAC ~ 127VAC \pm 15 %, 50/60Hz \pm 3Hz AC 220VAC ~ 240VAC \pm 15 % , 50/60Hz \pm 3Hz
Power Consumption	In Stand by mode : 115Watts In Normal Operation mode(Print / Tray1 / Tray2) : 430Watts / 420Watts In DADF Copy mode(Copy. Tray1) : 450Watts
Power Save Consumption	Avg. 35Wh
Recommended System Requirement	Pentium IV 1.2 Ghz, 128 MB RAM, 220MB(Hard Disk)
Minimum System Requirement	Pentium III 500Mhz, 32 MB RAM, 100MB(Hard Disk)
LCD	20 characters X 2 lines with Backlight
Memory	4 Mbyte for flash Memory , 32 Mbyte SDRAM

* Sound Pressure Level, ISO 7779

3.2 Print Specification

Items	Description
Printing Method	Laser Scanning Unit + Electro Photography
* Speed	Single Side : 22 PPM (Letter Size, 5% Character Pattern)
	Duplex : 11 IPM/Images/Min) (Letter Size, 5% Character Pattern)
Source of Light	LSU(Laser Scanning Unit)
Duplex Printing	Yes(Default : OFF)
Resolution(Horizontal X Vertical)	True 600 X600 DPI , 1200 DPI Class
Feed Method	Cassette Type , By Pass Tray, DADF(Duplex Automatic Document Feeder)
Feed Direction	FISO(Front-In Side-Out)
Paper Capacity(Input)	Cassette : 550 Sheets
	By Pass Tray : 100 Sheets(based on 75g/m2, 20lb)
Paper Capacity(Output)	Face Down : 250 Sheets
Effective Print Width	203 ± 1mm (8 inch)

* Print speed will be affected by Operating System used, computer system performance, application software, connecting method, media type, media size and job complexity.

3.3 Facsimile Specification(SCX-6320F Only)

Items	Description
Standard Recommendation	ITU-T Group3(ITU : International Telecommunications Union)
Application Circuit	PSTN or behind PABX (PSTN : Public Switched Telephone Network. PABX : Private Automatic Branch Exchange)
Data coding(Compression)	MH/MR/MMR/JBIG/JPEG(Color/Transmission)
Modem speed	33600/28800/21600/19200/14400/12000
Transmission Speed	Approximately 3 sec(33,600 bps)
Effective Scanning Width	8.2 inches(208 mm)
Halftone	256 Levels
Paper Capacity(Input)	DADF(Duplex Automatic Document Feeder) : 50Sheets(75g/m2)
FAX Mode	Standard /Fine/Super Fine/Halftone
Memory	16MB

3.4 Scanner Specification

Items	Description
Type	Flatbed(with DADF)
* Speed	Mono Binary : 0.71 msec/line, Color/Mono. Gray : 2.5 msec/line
Device	Color CCD(Charge Coupled Device) Module
Interface	IEEE1284(ECP Support)
	USB(without HUB Mode)
Compatibility	TWAIN Standard , WIA(TBD)
Optical Resolution(H X V)	600 X 600 dpi
Interpolation Resolution	Max. 4800 dpi
Halftone	256 Levels
Effective Scan width	8.2 inches(208 mm)

* Speed will be affected by Operating System used, computer system performance, application software, connecting method, media type, media size and job complexity.

3.5 Copy Specification

Items	Description
Mode	B/W
Quality	Text/Photo/Mixed
Mono Copy Speed(1)	Platen(SDMP) : 21 cpm ADF (SDMP) : 21 cpm ADF (MDSP) : Text/mixed : Approx. 21 cpm
Optical Resolution (H x V)	600 X 600 dpi
Multi Copy	1 to 999
Maximum Original Size	Legal
Maximum Page Size	Legal
Paper Type Selection	Plain , Cardstock , Transparency, Bond, Labls, Coldred
Zoom Range	Platen : 25 ~ 400%(1% Step) ADF : 25~100 %(1% Step)

NOTE : (1) Speed claims based on the test chart : Letter size.

SDMP : Single Document Multiple Printout

MDSP : Multiple Document Single Printout

3.6 Telephone Specification(SCX-6320F Only)

Items	Description
Speed Dial	200Locations
Tone/Pulse	Tone only user modeTone/Pulse selectable in tech mode.
Ringer Volume	OFF, LOW, MEDIUM, HIGH
Chain Dial	None
Pause	Yes, using the Pause/Redial Key

3.7 Consumables

Items	Description
Type	Separate type (Toner Cartridge / Drum Cartridge)
Life	*Toner Cartridge 8,000 imges (ISO 5% coverage pattern)
	Drum Cartridge 20,000 imges

* Toner Cartridge Yield : Average cartridge yield 8,000 standard pages Declared yield value in accordance with ISO / IEC 19752.

3.8 Maintenance

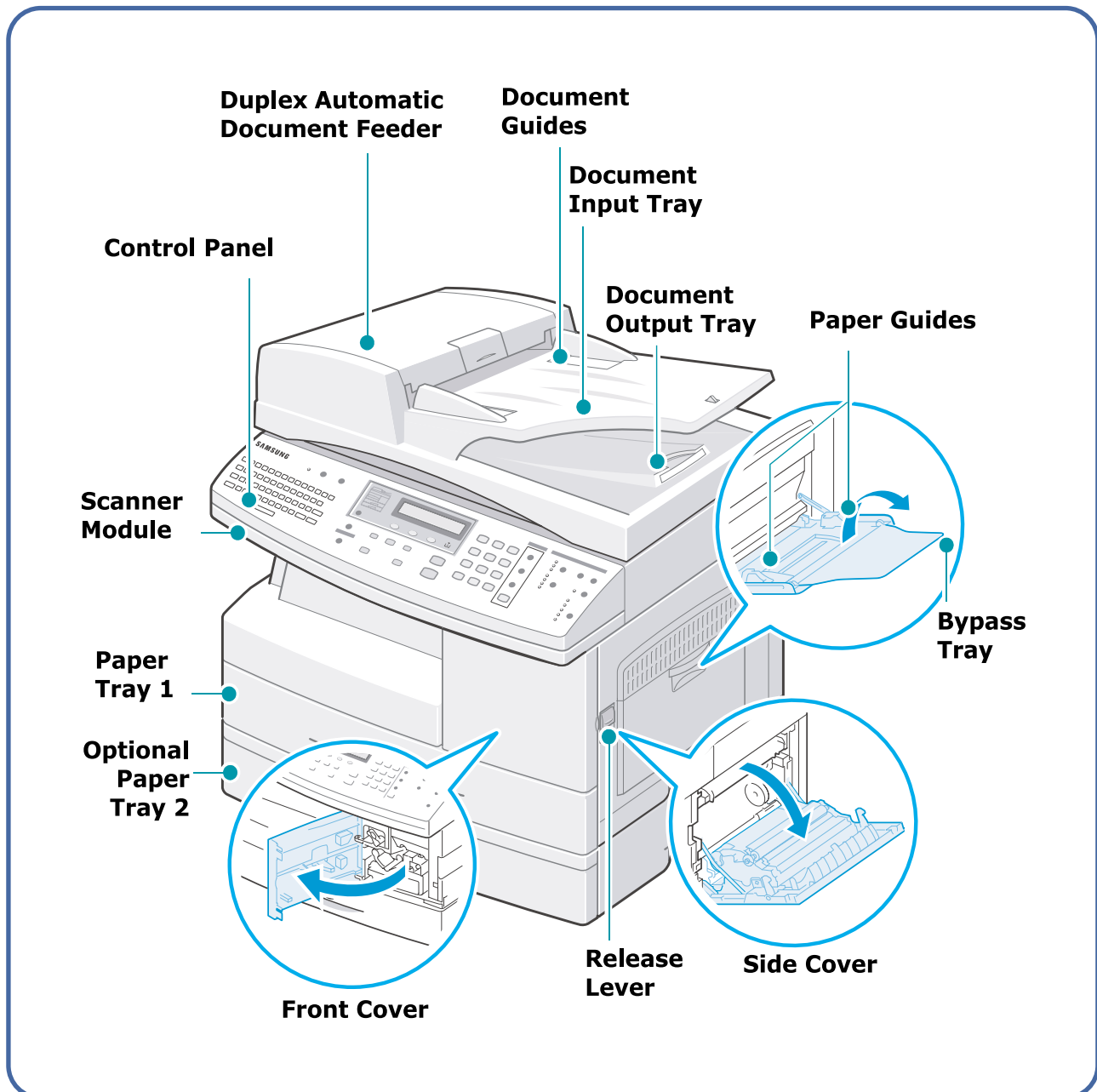
Items	Description
Fuser Unit	100,000 images
Transfer Roller	100,000 images
Paper Feeding Roller	100,000 feeds
DADF Feed Roller	50,000 feeds
DADF Rubber Pad	20,000 feeds

4. Summary of Product

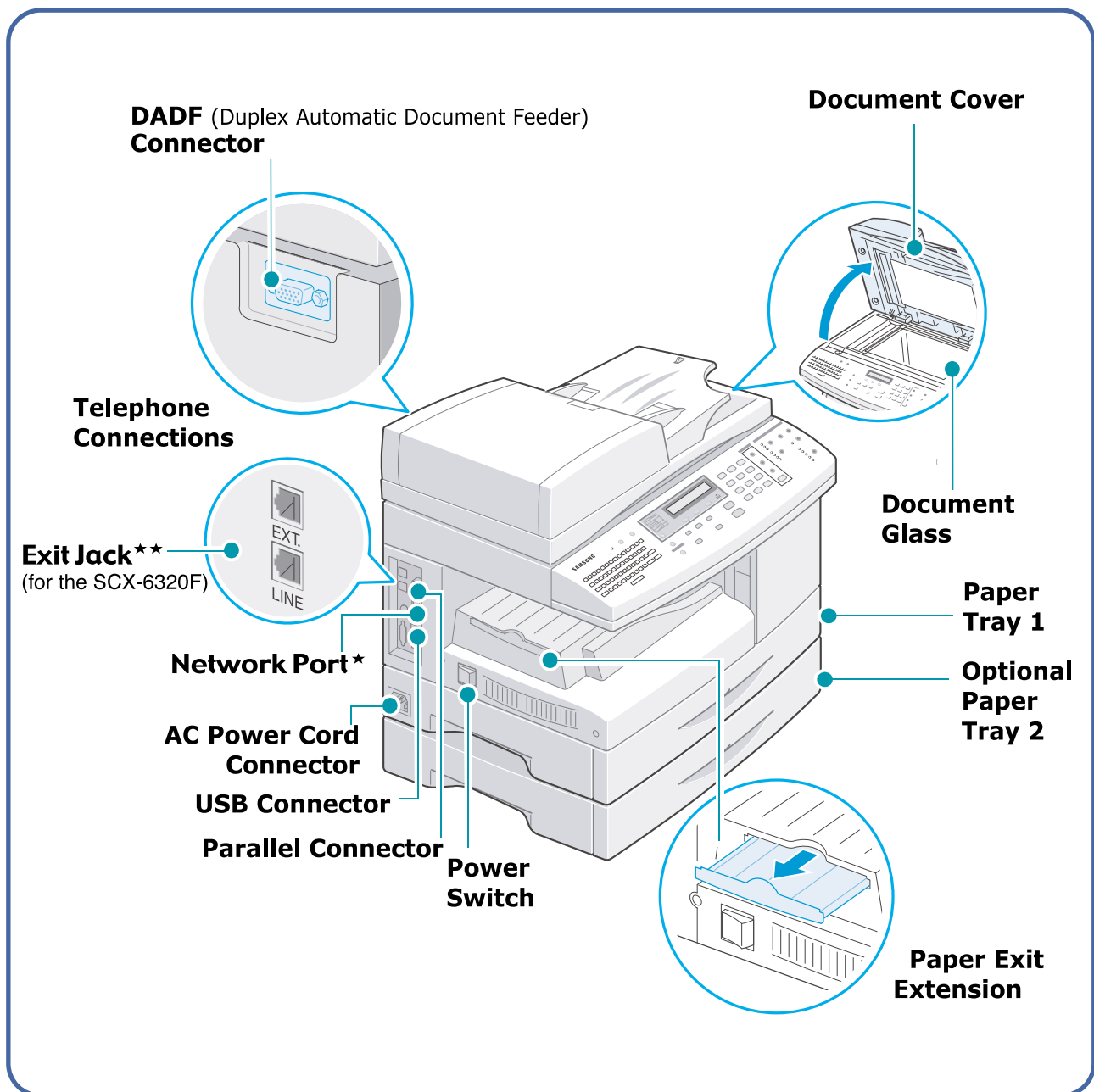
This chapter describes the functions and operating principles of the main components.

4.1 Printer Components

4.1.1 Front View



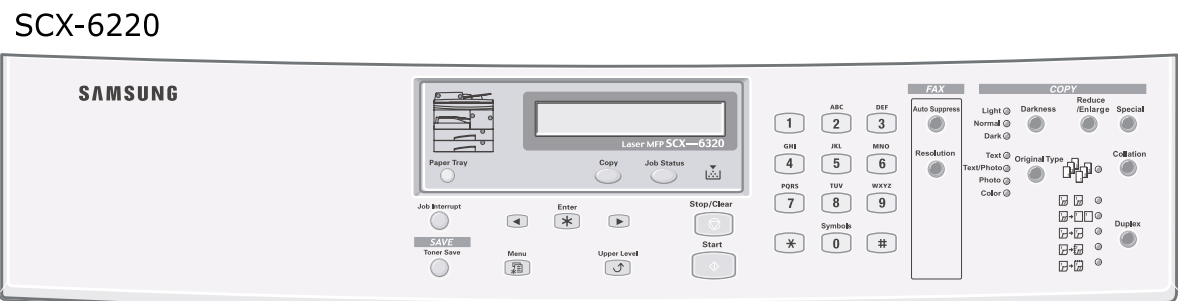
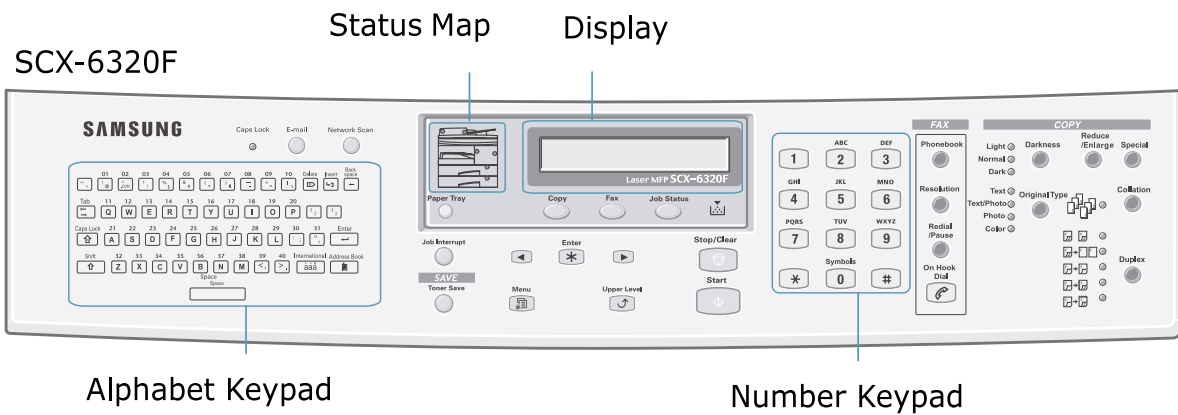
4.1.2 Rear View
















* The network port is not fitted as standard on the machine.












** If your country has a different telephone connection system, this socket may be blocked.

4.1.3 Control Panel (SCX-6320F & SCX-6220)



1	E M A I L	E-mail	Selects E-mail mode.
		Network Scan	Selects Network Scan mode.
		Alphabet keypad	Used to enter characters in E-mail mode. Used to store frequently dialled fax number and dial them with a touch of the buttons.
		Address Book	Used to store and send addresses.
2		Status Map	When an error occurs, the light on the corresponding location on the Status map turns on, as well as the error indicator, and the error message appears on the display so that you can locate the error. For details on the meaning of the error messages.
		Display	Displays the current status and prompts during operation.

2		Used to select a paper supply source between Tray and Bypass in Copy or Fax mode.
		Selects Copy mode.
		Selects Fax mode.
		Shows the current job.
		Turns on when the toner cartridge is empty.
		Used to interrupt the network or PC printing process or the portion of the copying process.
3		Allows you to save on toner by using less toner to print a document.
4		Enters Menu mode and scrolls through the menus available.
		Sends you back to the previous menu level or exits the menu.
		Confirms the selection on the display.
		Scrolls through the menu items and the options available for the selected menu item.
		Used to activate the job.
		Used to stop an operation at any time. Used to return to Standby mode.
5	Number Keypad	Used to dial a number or enter alphanumeric characters.

6 F A X		Allows you to store frequently-dialed fax numbers using a one, two or three-digit speed dial or group number for automatic dialling and edit the stored numbers. Allows you to print a Phonebook list.
		Used to adjust the resolution of the current fax job documents.
		Used to redial the last phone number called or to add a pause when storing a number in the dial directory.
		Used to dial a fax number manually.
7 C O P Y		Used to adjust contrast level prior to copying, Faxing or scanning.
		Used to adjust copy size from 25% to 400% when using the Document Glass, and 25% to 100% using the DADF.
		Used to make two-sided copies in Copy mode.
		Used to produce collated copies in Copy mode.
		Used to use select the original type of original being scanned.
		Used to use special copy features like Clone, Auto fit, 2 Up, Poster and ID card.
		Used to copy an original and suppress its background

4.2 System Layout

SCX6220/6320F can be divided into the following main constituent parts: Main Controller, Operator's Panel, PC Interface, Scanner, DADF, Line Interface and Power Supply. The Main Controller uses the SPGPm processor. The Operator's panel (OPE) and the DADF each have their own MICOM which communicates serially with a UART built into the SPGPm processor. The Scanner uses the CIP4e processor to control the CIS. The Line Interface is an FM336 integrated with the Main Board which communicates with the LIU at speeds up to 33.6Kbps.

The Power Supply has both the SMPS and HVPS integrated on one PBA.

4.2.1 Feeding section

There is a universal cassette which automatically loads paper and the manual feed which supplies paper single sheet at a time. The cassette has a friction pad which separates paper to ensure single sheet feeding, and it has a sensor, which checks when the paper tray is empty.

- Feeding Method: Universal Cassette Type
- Feeding Standard: Center Loading
- Feeding Capacity: Cassette-550 sheets (75g/m² , 20lb paper standard)
- Multi-function tray: 100 sheet (75g/m² , 20lb paper standard.)
- Paper detecting sensor: Photo sensor
- Paper size sensor: None
- Driven by gearing from the main motor

4.2.2 Transfer Ass'y

This consists of the PTL (pre-transfer lamp) and the Transfer Roller. The PTL shines a light onto the OPC drum. This lowers the charge on the drum's surface and improves transfer efficiency.

The transfer roller transfers toner from the OPC drum surface to the paper.

- Life span: 100,000 sheets (in 15~30°C)

4.2.3 Drive Ass'y

- Gear driven power unit. The motor supplies power to the paper feed unit, the fuser unit, and the toner cartridge.
- Duplex motor drives output roller for forward and reverse functions.
- DADF Unit : the DADF has its own MICOM which controls the paper feed motors. The two motors are, like the printer drive motors, used to feed the paper through the ADF mechanism. The ADF duplex motor is used for reversing the paper feed for double sided originals. Both DADF motors operate at a maximum of 2940pps.

4.2.4 Fusing

The temperature change on the heat roller's surface is measured using a Thermistor. The resistance of the Thermistor changes as the temperature changes. The value of the resistance is measured using an A to D converter and the value is sent to the processor. The processor controls the AC power to the heat coil. If the processor decides that the temperature is out of range an error message is displayed on the KCD display. Refer to the table below.

Heat Coil Method

Error	Description
Open heat error	When preheating, it has been lower than 68°C over 15 seconds.
Lower heat error	<ul style="list-style-type: none"> • After finishing the preheating process, the fuser has not reached 100°C (preheating stop temperature) within 15 seconds of the temperature reaching 68°C. • Printing <ol style="list-style-type: none"> 1) When the main motor is on and after 0.92 second, it has not reached 160°C within 20 seconds. 2) After the second consecutive page, the fuser has been 20°C lower than the fusing temperature for more than 4 seconds.
Over heat error	<p>This error is not displayed immediately when the fuser reaches 220°C.</p> <p>The temperature is checked after 3 seconds. If it is over 240°C, it is error.</p> <p>If the temperature has been higher than 220°C for more than 25 seconds, it is an error even though the temperature doesn't reach 240°C.</p>

4.2.5 Scanner

It reads an image with a photosensitive sensor. It consists of a CCD module, Connection board, DADF board, AFE (Analog Front End), and Image Processor (Located in CPU), platen glass and DADF.

4.2.5.1 General Specification

- The Scanner specification is as follows:

- 1) Minimum Scan Line Time : 0.68ms
- 2) Scan Resolution : Max. 600DPI
- 3) Scan Width : 216mm
- 4) Primary Function
 - Internal 12bit ADC
 - White Shading Correction
 - Gamma Correction
 - CCD Interface
 - 256 Gray Scale

4.2.5.2 CCD Imager Control Specification

- CCD Image sensor uses +5V Power and Inverter uses +24Vpower.
 - CCD Max. Driving Frequency : 10MHz
 - CCD Line time : 0.68ms
 - White Data Output Voltage : 0.7V \pm 0.5V (Mono Copy, 0.68ms/line)
 - Maximum Inverter Current : 600 mA Max.(Power +24V)

4.2.6 DADF (Duplex Auto Document Feeder)

4.2.6.1 DADF Specification

- Duplex drive mechanism controlled by its own One Chip MICOM.
- It sends/receives command from the Main Board using UART.
 - The 2 Motors, DADF MOTOR & DUPLEX MOTOR, are driven at a maximum of 2940pps.
 - MOTOR DRIVER : A3977(Allegro) x 2EA
 - Driving Power : 24V DC
 - Driving Mode :
 - COPY : 1470pps
 - SCAN : 400pps (600dpi) ~ 2940pps (75dpi)
 - FAX : Super Fine : 1470pps (1-2phase)
 - Fine : 1470pps (2-2phase)
 - Normal : 1470pps (2-2phase)
 - Minimum Scan Line Time : 0.72msec -> 0.68ms
 - CCD Driving : 0.72msec -> 0.68ms

4.2.6.2 DADF Sensor

* DADF Capacity : 50sheets

Type	Photo interrupt	
Location	ADF B'D	
Heating area	Max. current	50mA
	Max. voltage	5V
Output	Logic "H"	Document present
	Logic "L"	Document not present
Location : Doc. Sensor		To detect document in document feed tray
Doc. Width Sensor		To detect document width
Doc. Length Sensor		To detect document length
Regi Sensor		For Document Registration
Scan Sensor		To ready/end for CCD Module Scan
Gate Sensor		To identify Duplex start point
Duplex Sensor		For registration of document in Duplex path
Door Open Sensor		To remove document jam in feed area
Exit Open Sensor		To remove document jam in exit area

4.2.6.3 DADF Rubber

Material	SI rubber
Life	20,000 sheets (A4 standard)

4.2.6.4 DADF Roller

Diameter	25.06mm
Material	EPDM
Life	50,000 sheets (A4 standard)

4.2.7 LSU (Laser Scanner Unit)

This is the core of the laser printer. It converts the video data received from the computer into an electrostatic latent image on the surface of the OPC drum. This is achieved by controlling the laser beam and exposing the surface of the OPC drum to the laser light. A rotating polygon mirror reflects the laser light onto the OPC and each side of the mirror is one scan line. The OPC drum turns as the paper feeds to scan the image down the page.

The /HSYNC signal is created when the laser beam from LSU reaches the end of the polygon mirror and this signal is sent to the controller. The controller detects the /HSYNC signal to adjust the vertical line of the image on paper. In other words after the /HSYNC signal is detected the image data is sent to the LSU to adjust the left margin on the paper.



Optical Resolution		Real 600 dpi
Beam Diameter	Main Scan Beam Diameter	75 +20/-10 μ m
	Sub Scan Beam Diameter	80 +40/-10 μ m
	Beam diameter deviation (Main/Sub-scan)	30 μ m/ 50 μ m
Laser	Wavelength	785 +20/-15 nm
	power	0.365 mW \pm 0.02 mW
f θ Characteristic	Focal distance	136.6 mm
	Effective angle (2 θ)	90.56° (Based on 216mm Image Width)
Scan Width	Valid Scan Width	210 mm
	Max Scan Width	216 mm
Scan Line Characteristic	Scan line curvature	under 1.0 mm
	Scan line inclination	under 1.0 mm
Sync Detecting position		121.7 mm
Sync PULSE Width		1 u sec or more

4.2.8 CRU (Customer Replaceable Unit) Section

The Toner cartridge and Drum cartridge are consumable items which require replacement. When each cartridge nears the end of its service life a message will be displayed in the control panel to inform the user that the cartridge requires replacement.

Store CRU cartridges in a location that is not subject to rapid changes in temperature or humidity.

4.2.8.1 Toner Cartridge Specification

The Toner CRU has a CRUM to enable the firmware to differentiate Samsung and third party versions as well as detect CRU presence.

- Toner Level Sensor : YES
- Low Toner : Message displayed on LCD "Toner Low"

There are 2 conditions which will cause the "Toner Low" message to appear on the control panel.

- a) This state is detected by an optical sensor which detects the physical amount of toner remaining
- b) or a decision is made by the F/W when 12,000 pages have been printed after the toner cartridge has been replaced. This F/W decision is needed to prevent the waste toner bin from overflowing.

The machine can continue making copies when this message is displayed. However, preparation of the new toner cartridge is recommended.

- Toner Empty : Message Displayed on LCD "Toner Empty"

There are 2 conditions which will cause the "Toner Empty" message to appear on the control panel.

- a) When the toner detector indicates that toner has run out
- b) After an additional 300 pages have been printed after entering the "Toner Low" state.

"Toner Empty" is written to the CRUM and a message appears on the UI. To avoid faint or otherwise poor quality printing replace the toner cartridge.

When "Toner Empty" message is displayed on LCD, the print function of machine stops to avoid faint or poor printing quality.

If the continuous print is needed without replacing the new toner cartridge, follow the next steps.

Push [menu] button repeatedly, then Select [Machine Setup].

Push [◀] or [▶] button repeatedly, then Select [Ignore Toner Empty].

* "ON" : Continue to print.

* "OFF" : Stop printing (Default).

If the maximum printing counts arrive at 12,300 pages (300 prints after 12,000 prints), "Toner Empty" / "Replace Toner" message is displayed on LCD together and the print function of machine stops to prevent the waste toner bin from overflowing. Besides, [Ignore Toner Empty] function is fixed only [OFF].

- CRUM : Yes (EEPROM in Toner Cartridge)
- White glove installation : Yes (meets required standards)
- Life (Service) Time :

The service life of a cartridge is based on an estimated printing with 5% coverage on one A4 or Letter page at the default density settings in the machine.

- (Starter) 8,000 images A4 or Letter page, ISO 5% coverage (ISO 19752 Standard Pattern)
- (After-Market) 8,000 images A4 or Letter page, ISO 5% coverage (ISO 19752 Standard Pattern)

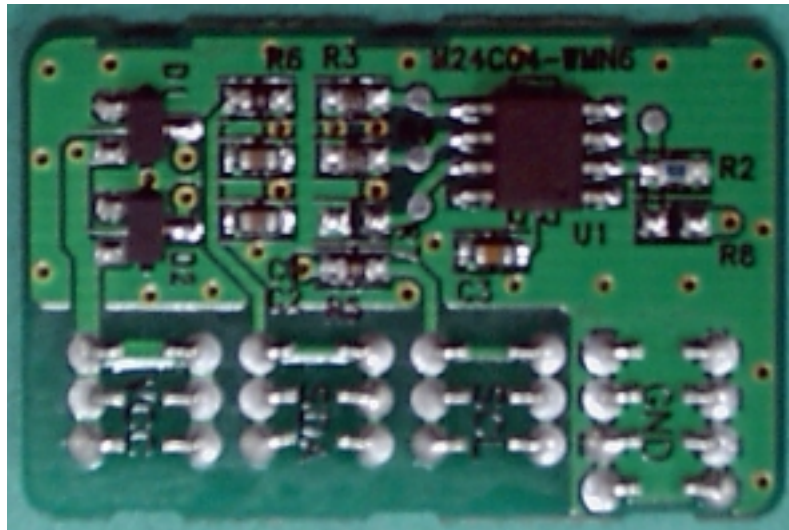
* Toner Cartridge Yield : Average cartridge 8,000 standard pages.

Declared yield value in accordance with ISO/IEC 19752.

4.2.8.1.1 CRUM for Toner cartridge

Branded Samsung toner cartridges must be used in the SCX6220/6320F.

The Usage data saved in the CRUM are either used by other features or are printed on the billing / counters list.



CRUM Feature	Sub features
Toner level gauge	<ul style="list-style-type: none"> - Toner Level has Normal, Low, and Empty states detected using a Toner sensor. <p>Note : The SCX-6320F does not support simulated toner gauge feature.</p>
Usage data saved in CRUM	<ul style="list-style-type: none"> - Vendor (Vendor name) - Capacity (Toner Cartridge Capacity) - Product Date (Toner Cartridge production date) - Install Date (Toner Cartridge installation date) - Serial (Serial number) - Total pages (Page count using this Cartridge) - Toner Status (Toner Level : Normal, Low, Empty)
Non-Samsung cartridge (UI: Invalid Cartridge)	<ul style="list-style-type: none"> - Faulty CRUM: Stop printing - Non Samsung Cartridge: Stop printing - Cartridge with inappropriate vendor ID: Stop printing - Cartridge with different vendor ID from vendor ID of machine: Stop printing <p>"Invalid Cartridge" will be displayed on LCD in above 4 cases, and Copy/Fax/PC job printing will be stopped (except printing Reports at "TECH MODE")</p>

4.2.8.2 Drum Cartridge Specification

The OPC Drum Cartridge has a fuse to enable a new drum to be detected and to reset the Drum Page counter.

- Low Drum Warning : Message displayed on LCD "Drum Warning" after printing 18,000 images.
- Out-of -Drum : Message displayed on LCD "Replace Drum" after printing 20,000 images, or after an additional 2000 images following "Drum Warning"

In order to maintain the consistency of print quality, the drum cartridge should be discarded after reaching the end of its life. When a new drum is inserted into the set the presence of a fuse is detected and the drum page counter is reset and the electrical fuse is blown

An OPC drum cartridge is extremely sensitive to light. Exposure to strong light can deteriorate the drum cartridge, resulting in poor performance and poor print quality.

- Life (Service) Time : 20,000 images.

The estimate of the service life of a drum cartridge is based on an average print job performed with A4 or Letter size paper loaded. If the user frequently prints with lower than 100% duty or uses the duplex function heavily, the service life of the drum cartridge will be shorter than above. (See the page 4-13)

4.2.8.3 Billing / Counters List

This list provides the usage data (page count) for the Drum cartridge, Toner cartridge, the machine and DADF/Platen scan page count. The "Billing/Counters List" is printed as follows.

<in User mode>

Push [menu] button repeatedly, then Select [Reports].

Push [◀] or [▶] button repeatedly, then Select [Billing/Counters].

Push the [Enter] key

<in Tech mode>

Push [menu] button, then Select the number [6] key.

Push [◀] or [▶] button repeatedly, then Select [Billing/Counters].

Push the [Enter] key

Billing / Counters List

Total impressions	: xxx (printing page count of the machine)
Toner impression Count	: xxx (printing page count of the toner cartridge)
Drum impression Count	: xxx (printing page count of the drum cartridge)
DADF Scan Page Count	: xxx (DADF scan page count of the machine)
Platen Scan Page Count	: xxx (Platen scan page count of the machine)
Replaced Toner Count	: xxx (Replaced Toner cartridge count of this machine)
Replaced Drum Count	: xx (Replaced Drum cartridge count of this machine)
*Equivalent Drum Revolution Rate	: xxx% (xxx)
*(Projected Page Counts)	

CRUM Information

*Vendor	: SAMSUNG(xxx)	[xxx]	(Vendor Name)
Capacity	: 8K		(Toner Cartridge capacity)
Product Date	: xxxx.xx		(Toner Cartridge production date)
Install Date	: xxxx.xx.xx		(Date the toner cartridge was installed)
Serial	: CRUM-xxxxxxxxxxxx		(Serial number of the toner cartridge)
Total Pages	: xxxx		(Printing page count of this toner cartridge)
Toner Status	: x		(0:Normal, 1:Toner Low, 2:Toner Empty)

*Equivalent Drum Revolution Rate: The ratio of current drum revolution to that under the average user's printing behavior 100% (Customer usage assumption). If the ratio is over 100%, the machine is used mainly for low duty cycle (individual or duplex printing job). Otherwise, if the ratio is under 100%, the machine is used mainly for high duty cycle (continuous or simplex printing job).

This data is printed only in Tech mode.

This rate can be expressed as follows.

$$[\text{Equivalent Drum Revolution Rate}] = [\text{Projected Page Counts}] / [\text{Drum impression count}] \%$$

*Projected Page Counts : This means the converted value of current drum revolution into the page count under the average user's printing behavior (customer usage assumption).

This data is printed only in Tech mode.

* Vendor : SAMSUNG(xxxxxx) [xxx]

Vendor name of the machine : example [EXP]

Vendor name of the toner cartridge (CRUM) : Example (EXPORT)

If the vendor name of the toner cartridge (CRUM) corresponds to the vendor name of the machine, the machine works normally.

Otherwise, if the vendor name of the toner cartridge (CRUM) does not correspond to the vendor name of the machine, “Invalid Cartridge” message will be displayed on LCD

4.3 System Description

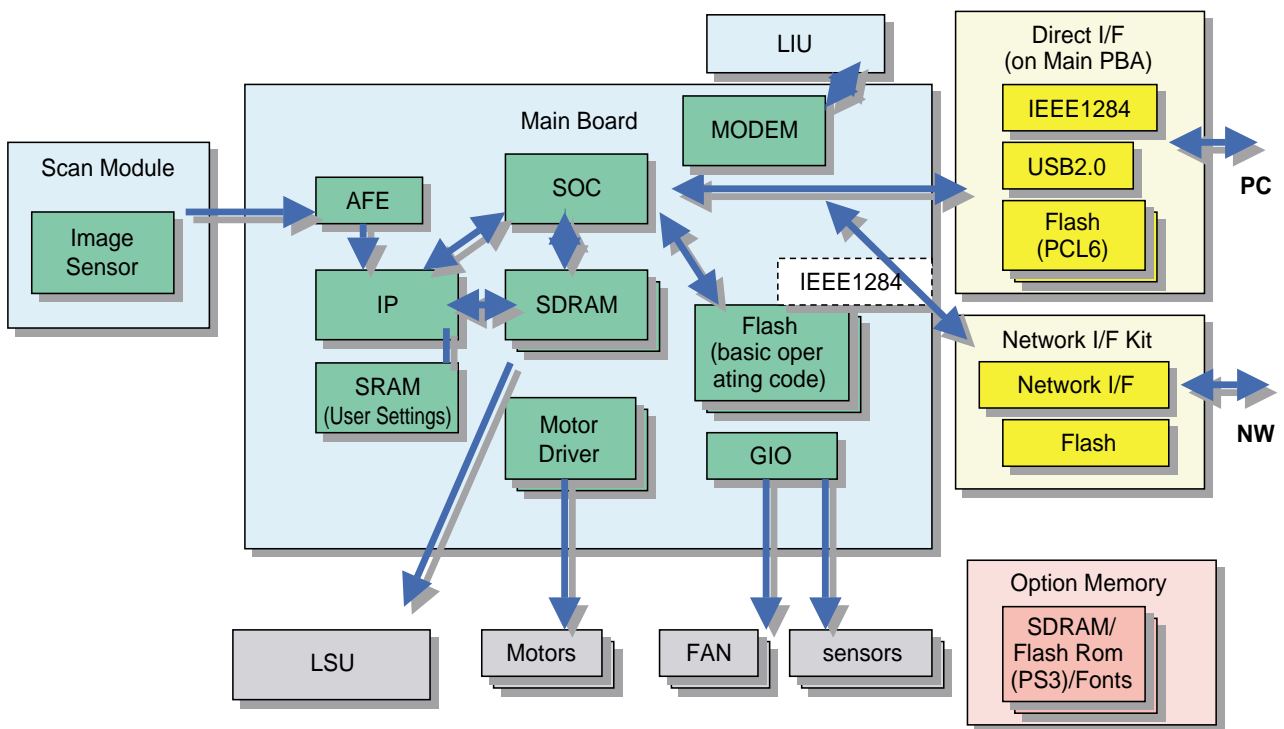
4.3.1 System controller architecture

SCX6220/6320F can be divided into the following main constituent parts: Main Controller, Operator's Panel, PC Interface, Scanner, DADF, Line Interface and Power Supply. The Main Controller uses the SPGPm processor which is common to many FAX and Printer products.

PC direct interfaces, USB2.0 and IEEE1284, are implemented on the main PBA. Network support is implemented on a separate Network Interface card.

Each Part is designed with emphasis on Common-Use/Standardization with other models as independent modules.

4.3.1.1 System Block Diagram



4.3.2 Main Controller

The Main Control Part comprises a main processor (SPGPm) and a graphics processor (CIP4E) which, by adopting the dedicated processors for Fax & LBP machines, is implemented on a single PBA.

The Scanner Part comprises DADF & CCD and is connected with Main PBA through a cable harness.

4.3.2.1 SPGPm Printer controller

- ARM946ES processor
 - 32-bit RISC embedded processor core
 - 16KB instruction cache and 16KB data cache
 - No Tightly Coupled Memory
 - Memory Protection Unit & CP15 control program
- Dual bus architecture for bus traffic distribution
 - AMBA High performance Bus (AHB)
 - System Bus with SDRAM
- IEEE1284 compliant parallel port interface
- Printer Video Controller for LBP engines
- Graphic Execution Unit for Banding support of Printer Languages
- Printer Video Controller for LBP engines
 - PVC : Printer Video Controller without RET Algorithm
 - HPVC : Printer Video Controller with RET algorithm
(Line Memory & Lookup Table Memory : 512 x 8 , 4096 x 16)
- Engine Controller
 - Motor Control Unit
 - Motor Speed Lookup Table Memory (128 x 16 x 2)
 - Pulse Width Modulation Unit
 - 4 Channels are supported
 - ADC Interface Unit
 - 3 ADC Channels are available
 - ADC Core (ADC8MUX8) maximum clock frequency : 3 MHz
- USB 2.0 Interface
- Package : 272 pins PBGA
- Power : 1.8V(Core), 3.3V(IO) power operation
- Speed : 166MHz core(ARM946ES)operation, 60MHz bus operation

4.3.2.2 Flash Memory

It stores the system program, this can be updated by downloading the system program through the PC Interface. It is also used to store the FAX Journal, One Touch Dial and Speed Dial lists.

- Capacity : 4M Byte
- Access Time : 70 nsec

4.3.2.3 System Memory (SDRAM)

- Capacity: SCX6220 32MByte expandable up to 160MByte, SCX6320F 48MByte expandable to 176MByte.

Note – Option Kit includes an additional 32MB memory	SCX6220	SCX6220 + Net. Option	SCX6320F	SCX6320F + Net. Option
System Working Memory Area / Scan Buffer	8MB	8MB	8MB	8MB
Printing System Working Memory Area	24MB	24MB	24MB	24MB
FAX memory (in DIMM socket)			16MB	16MB
Scan to Email (in DIMM socket)		32MB		32MB

- Optional Additional DIMM : 16MB / 32MB / 64MB /128MB. Additional memory above 48Mbytes fitted in the DIMM socket is used for printing
- Type : SDRAM 133MHz , 16bit
 - A battery backup power supply is used to ensure faxes stored in memory are not lost when power is off.

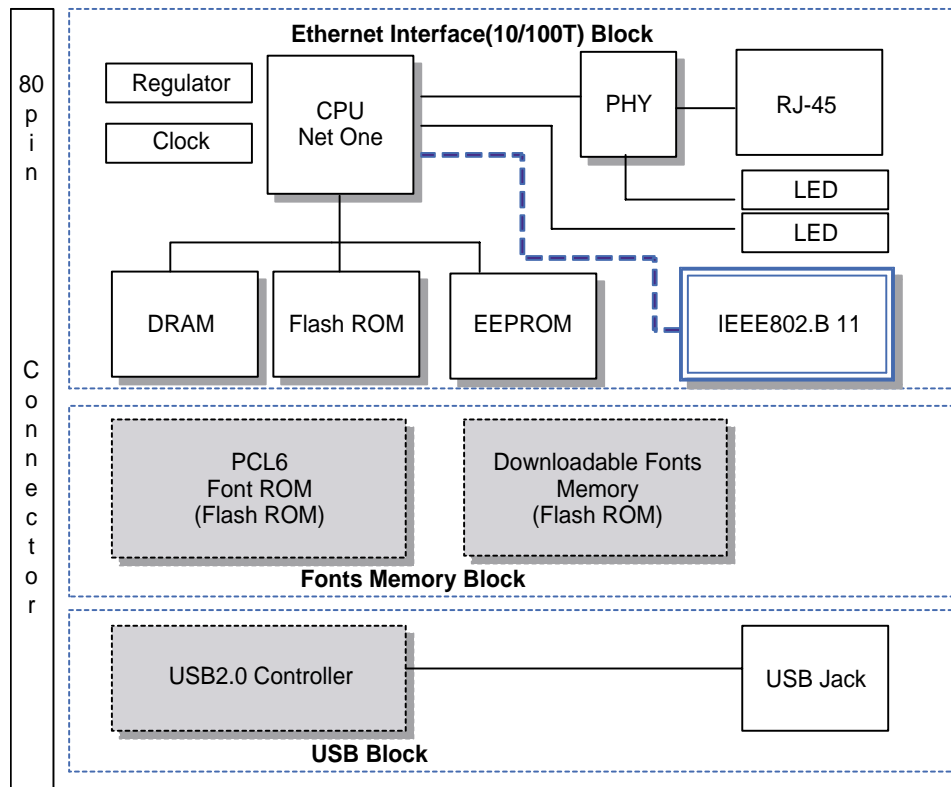
4.3.2.4 System Data Memory (SRAM)

This memory is used to store client settings and operation variables. It has a battery supply to maintain values when power is off.

4.3.3 Network Interface Card (NIC) Block Diagram - Option

The NPC card is supplied as an option kit (not factory fitted). It is supplied with a Qwerty keyboard and a 48MB memory module. This kit is required in order to support EMAIL features.

Note The 16MByte memory fitted in the DIMM socket (SCX6320 only) must be removed and discarded.



1) CPU (NetOne)

This device includes IEEE802.3 MAC Core, UART, USB host, and IEEE1284 Host controller and is based on a 32Bit RISC processor having an ARM7 Core. It converts/uses 25MHz input clock into 48MHz System clock by using internal PLL logic for use with the internal USB I/F. It has an embedded 8KB SRAM. The NPC card exchanges data with the Main Controller PBA through the SDRAM using a 16 Bit Data Bus.

Communication between the Main PBA and CPU uses a high-speed/high-efficiency DMA transfer process through Shared Memory embedded in NetOne.

Note The SCX-6320F does not use the USB Interface which is embedded in NetOne.

2) ROM (Flash Memory)

The NPC used in the SCX-6320F has 2MB of Flash Memory for the operating System Program. This Flash Memory stores the NPC Firmware which controls the entire Network Protocol and software for Embedded Web Service & Network Management.

This Flash Memory can be upgraded through Network by using the EWS (Embedded Web Server) or SyncThru Management software.

3) RAM

16MB SDRAM is used as System Program buffer or Network Data buffer.

4) PHY

The Physical Network interface driver, it requires a 25MHz clock input.

5) RJ-45

6) LEDs

Comprising 2 LEDs that display the Network Link status and System Operation status.

7) Regulator

It converts 3.3V which is supplied from Main Controller PBA into 1.8V for CPU core operation.

8) Clock

The System clock which is needed for the Network Card operation, it needs a precision 25MHz ± 50 ppm X-tal source.

9) EEPROM

Non-volatile memory for storing Network setting parameters, it stores various parameters e.g. TCP/IP and Network settings.

10) IEEE802b.11

Whilst the NPC card is capable of supporting the Wireless interface module this is not implemented in SCX6220/6320F.

11) 80 pin Connector

This connector passes all of the electrical signal required for communication between the Main PBA and the NPC. This comprises Address Bus, Data Bus, Control Bus and Power signals.

4.3.4 Option Memory (DIMM)

The SCX-6320F provides 3 memory Extension Slots on the Main PBA.

Of the 3 Slots, one is for FONT ROM Extension, one is for PostScript support and the other is for SDRAM Extension.

The FONT ROM Extension Slot is for supporting graphical languages.

The PostScript Extension slot is used when the Optional Postscript 3 ROM is fitted.

The SDRAM Extension Slot is used when the Network Kit is fitted and supports memory for the Scan-To-Email or FAX message receive functions

The ROM Module for PS3 should be installed in PS Slot, and SDRAM Module for Scan-To-Email or Fax should be installed in the RAM Slot. Incorrect installation will cause the SCX6220/6320F malfunction.

4.3.4.1 Memory for Scan-To-Email / FAX (SDRAM)

It is connected to the SDRAM BUS of the CPU (SPGPm) on the Main PBA and provides the memory space to support Scan-To-Email and Fax message storage.

SCX-6220:

- Expansion SDRAM fitted in the DIMM socket is only for Scan-To-Email
 - This extra memory is to support Scan-To-Email or Network Scanning when the optional NPC, Qwerty Keyboard and Memory kit is fitted into the base model without FAX support.
 - SIZE : 32 MB (Standard), If necessary it can be extended using 64MB or 128MB SDRAM DIMMs.
This extra memory beyond 32Mbytes is used for printing

SCX-6320F:

- Expansion SDRAM fitted in the DIMM socket is used for Scan-To-Email and FAX storage
 - This extra memory is to support Scan-To-Email or Network Scanning when the optional NPC, Qwerty Keyboard and Memory kit is fitted into the FAX model (SCX6320F).
 - 16Mbytes of Buffer Memory for storing faxes when Secure Receive is enabled or when the paper has run out is fitted in the DIMM socket. This is removed and replaced by a 48MByte memory when the network kit is installed.
Of this 48Mbytes 16Mbytes is still used for the FAX features. The remaining 32 MB is used for the Scan to Email feature.
If necessary memory size can be extended using 64MB or 128MB SDRAM DIMMs This additional memory will be used for printing.
The fax memory needs Battery Backup, and the Backup time will change according to memory size.
The standard Fax memory of The SCX-6320F is 16MB and the battery provides more than 72 Hrs. of memory backup power.

4.3.4.2 Flash Memory for PostScript3

The PS ROM is connected to the ROM BUS of the CPU (SPGPm) on the Main PBA and provides PostScript3 support.

This FLASH Memory can be upgraded using the RCP (Remote Control Panel) or EWS (Embedded Web Server).

Postscript support is an optional feature purchased separately.

4.4 FAX FEATURES

4.4.1 ITU-G3 Compatibility

The SCX-6320F is compatible with G3 communication mode, and is not compatible with G1 and G2.

ITU-T: The International Telecommunications Union, a committee created to set international standards for telecommunications.

4.4.2 Scan Width and Resolution

The SCX-6320F utilizes a scan width of 216mm Max., 208mm effective and provides optical 600dpi-scan resolution. In the Fax mode, 203x98dpi (Normal), 203x196dpi (Fine), 300x300dpi (Superfine), 203x392dpi, and 406 x 392 dpi (super fine) resolutions are supported. When storing the scanned image data into memory for transmission, if the Superfine resolution mode is selected this will be changed to Fine resolution automatically as the set cannot determine, before contact is established, if the remote machine has the capability to support Superfine resolution, i.e. the Superfine resolution is supported only for direct transmission.

In the Scanner mode, 75dpi through 600dpi resolutions are supported optically and higher resolutions up to 4800dpi can be supported by interpolating via the bundled Twain driver.

4.4.3 Scan Speed

Scan speed indicates the speed at which a machine scans a page and is normally expressed in 1.4sec per page with Standard resolution from a document in the DADF. The SCX-6320F is capable of scanning a page for transmission in just 3 seconds (based on ITU-T No.1 Chart, MMR compress).

4.4.4 Automatic Reduction when Receiving Data

When receiving a document that is as long as or longer than the paper installed in the product, the SCX-6320F can reduce the data in the document to fit the recording paper size set by the end-user. The machine can reduce the incoming data in vertical and horizontal direction. Otherwise, the incoming page may need to be divided into two pages with only a few centimeters on the second page. The few centimeters on the second page can be discarded by setting end-user options. (Discard size options) If the supplied paper is not matched with the paper size set by the end-user, the reduced and printed image data may not be printed correctly. In order to support Automatic reduction operation, the memory has to have a capability to receive a one-page image data completely. Sometimes if the image data is bigger than the memory capacity, for example, full image with Superfine Photo resolution, the image cannot be received.

4.4.5 Modem Speed

The SCX-6320F can transmit code at a maximum speed of 33600 bits per second. The SCX-6320F will compensate for fluctuating phone line quality by stepping-down in modem speeds (33600 to 28800 to 26400 to 21600 to 19200 to 14400 to 12000 to 9600 to 7200 to 4800 to 2400) to improve the probability that a fax transmission will be completed on the first attempt. Normally, 33.6KBPS can transmit one page in 3 seconds and 14.4KBPS at 7 seconds, but at 9.6KBPS the modem takes 10~12 seconds.

(ITU-T No.1 chart at standard resolution using memory transmission)

4.4.6 Error Correction Mode

ECM is a communications mode which compensates for poor line quality and ensures accurate, error-free transmissions to any other ECM-equipped fax. However the transmission speed is slower than when using standard mode.

4.4.7 Compression/Decompression

The SCX-6320F can compress the scanned image data to transmit fax data or decompress to print out received fax data using MH/MR/MMR/JBIG/JPEG (transmission) (ITU-T T4/T6) compression/decompression algorithms.

4.4.8 256 Level Half-toning

This feature is used when transmitting photographs or documents with halftones. The enhanced image feature gives documents the appearance of more grayscale levels using the Error-Diffusion method.

4.4.9 Telephone Answering Device (TAD) Interface

A TAD device is attached to the EXT line jack. The SCX-6320F supports ANS/FAX mode to receive fax message during TAD device operation.

4.4.10 Memory Capacity

Memory capacity for Fax reception is 16 Mbytes which is used to receive fax data successfully when there is no paper there is a paper jam or when using memory transmission / broadcasting / delay or secure receive functions.

The memory can be backed up for about minimum 72 hours when Power is off. (This can vary if additional memory is fitted in the expansion socket.) Sometimes if the image data is bigger than the memory capacity, for example, full image with Superfine Photo resolution, the image cannot be received. Even when Auto reduction is Off, the received image for one page may be bigger than the memory capacity. The SCX6320 also retains, in memory, the last page printed so that, in the event of a paper jam, the page can be reprinted if necessary. Each page is only deleted when the set is certain that the page print is successful. For this reason there may be times when less memory is available than is required to receive a complex page image.

4.4.11 Receive Mode

The SCX-6320F provide following 3 fax receive modes: TEL, FAX, ANS/FAX.

In TEL mode, automatic fax reception is turned off. You can receive a fax only by external phone command (*9*) or pressing the OHD key and pressing the START key.

In FAX mode, the machine answers an incoming call and automatically goes into receive mode.

In ANS/FAX mode, the an answering machine connected to the SCX-6320F via the EXT socket is allowed to answer an incoming call, and the caller can leave a message on the answering machine. If the SCX-6320F senses a fax tone on the line, the call automatically switches over to the SCX-6320F.

4.4.12 Fax Feature

The Machine supports various fax functions. It supports Delay Transmission and Memory Transmission.

For urgent faxes which require to be sent during group transmission, the user can interrupt the process using the Priority transmission function

The SCX-6320F supports receiving mailboxes by using ITU-T Sub addressing method.

See below for details of each functions.

4.4.12.1 Delayed/Memory Transmission

A maximum of 50 transmission jobs can be reserved in the SCX-6320F. The SCX-6320F will send a fax at a later time when you will not be present. Using the Forced Memory Transmission option, documents are automatically stored in memory and sent to a remote station.

4.4.12.2 Priority Transmission

When priority transmission is enabled, a high priority document can be transmitted ahead of reserved operations. The document is scanned into memory, and then transmitted when the current operation concludes. Furthermore, a priority transmission will interrupt a broadcast operation between stations or between redial attempts. 3 priority jobs are available. It is not possible to send priority jobs to multiple locations

4.4.12.3 Polling Function

The SCX-6320F can be programmed to send documents in the user's absence when polled and checking secure code (Poll Code) function is supported. Only one setting for polled transmission jobs is available.

The documents to be polled should be stored in memory when setting polling transmission.

Transmission Poll reservation can be set for up to 5 different poll jobs.

Receive poll can be reserved for up to 50 Transmission jobs.

The user can add documents to a Delayed, or Polling transmission previously reserved in the SCX-6320F's memory. Also the user can cancel reserved jobs.

5. Disassembly and Reassembly

5.1 General Precautions on Disassembly

When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must.

If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any component from the machine, note the cable routing that will be affected.

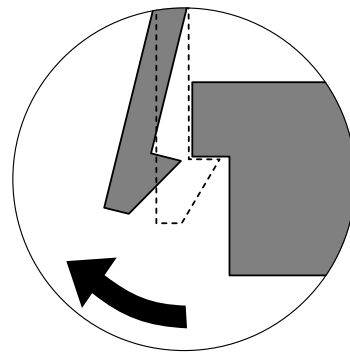
Whenever servicing the machine, you must perform as follows:

1. Check to verify that documents are not stored in memory.
2. Be sure to remove the toner cartridge before you disassemble any parts.
3. Unplug the power cord.
4. Use a flat and clean surface.
5. Replace only with authorized components.
6. Do not excessive force on components made of plastic, they may break.
7. Make sure all components are in their proper position.

Releasing Plastic Latches

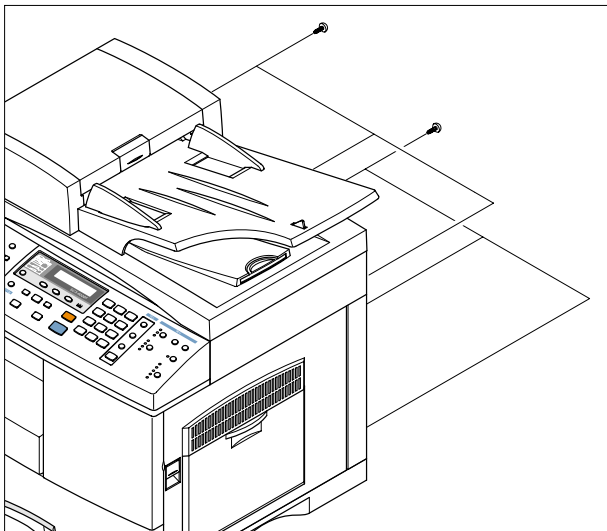
Many of the parts are held in place with plastic latches. The latches break easily; release them carefully.

To remove such parts, press the hook end of the latch away from the part to which it is latched.

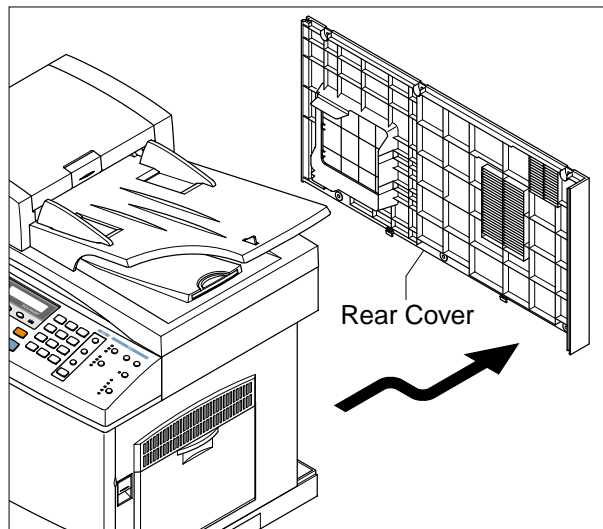


5.2 Rear Cover

1. Remove the six screws securing the Rear Cover.



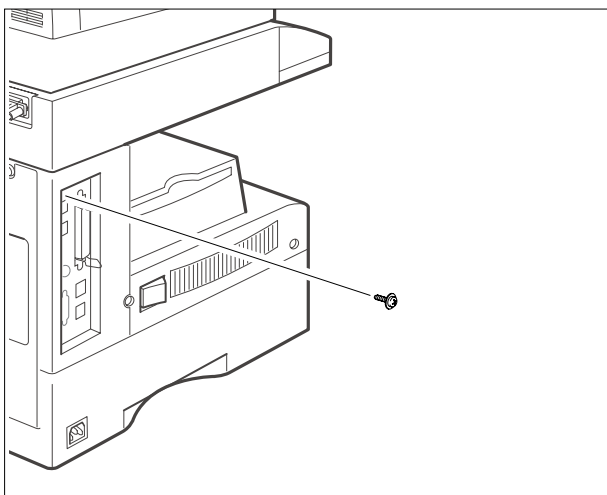
2. Separate the rear cover from the base frame and Scanner Ass'y.



5.3 Removing the LIU PBA

1. Before you remove the Scanner Ass'y, you should remove:
- Rear Cover (see page 5-1)

2. Remove the screw securing the Cover Panel MFP

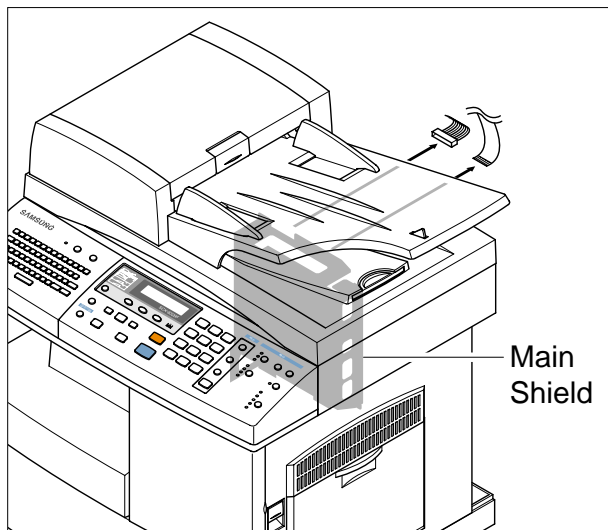


3. Remove 2 screws securing the PBA and disconnect the LIU harness. Release the plastic supporting clip and remove the LIU



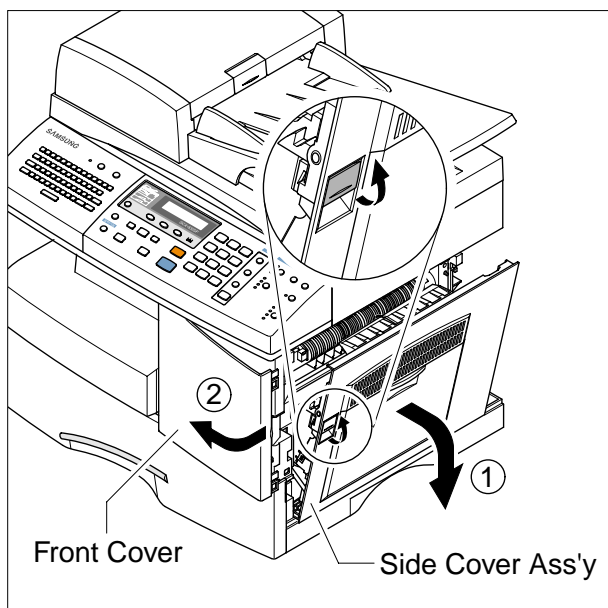
5.4 Scanner Ass'y

- Before you remove the Scanner Ass'y, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
- Unplug the DADF harness connector and CCD cable.

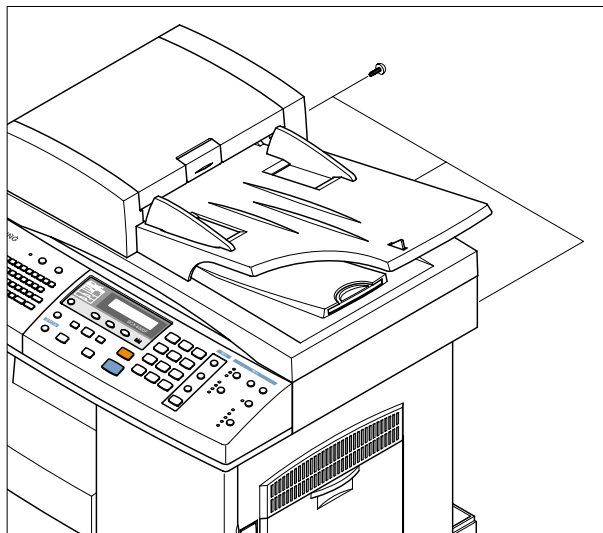


Notice : When removing the CCD flat cable pull firmly taking care not to bend or crack the cable.

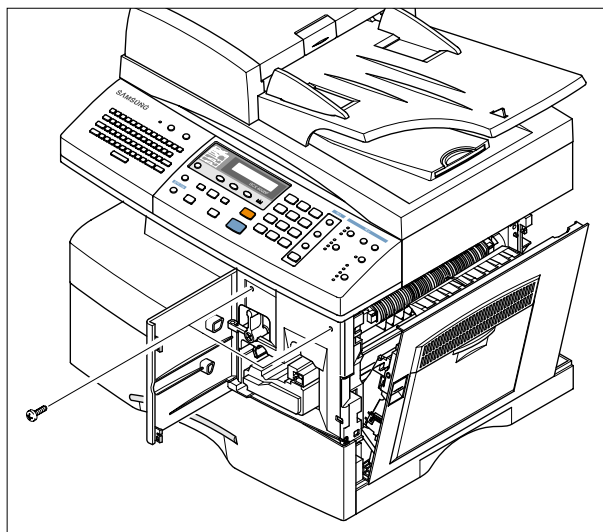
- The side and front covers are interlocked. Open the side door before opening the front door. When closing the doors the front door must be closed before the side door.
Open the front and side doors to gain access to the screws in the following steps.



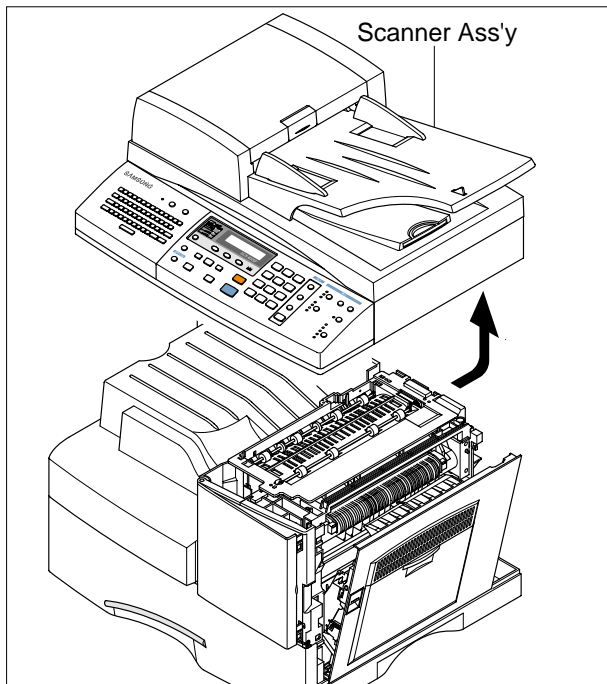
- Remove the three screws, as shown below. Also remove the single screw securing 2 ground cables.



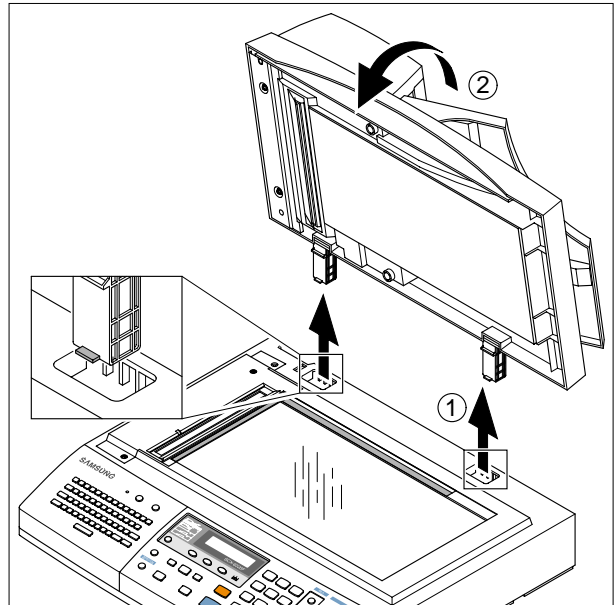
- Remove two screws.



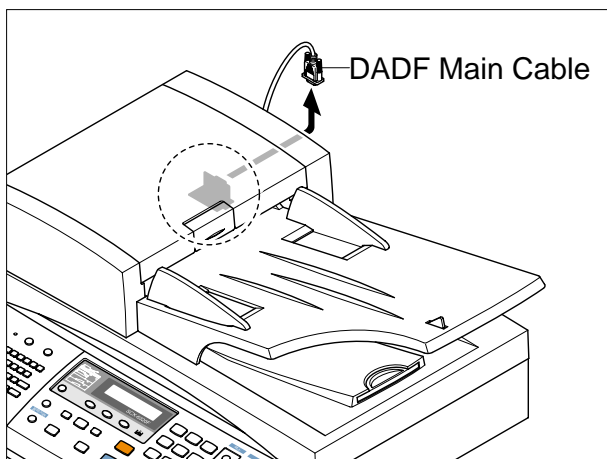
6. Pull up the Scanner Ass'y in the direction of arrow.



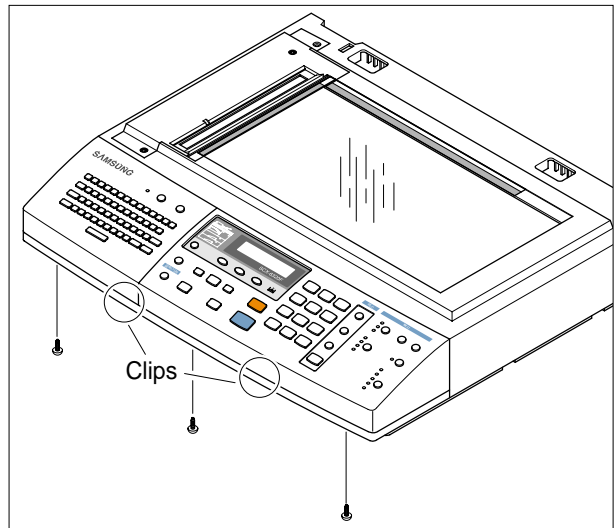
8. Open the DADF Ass'y in the direction of arrow. Pull the DADF Ass'y upward and remove it.



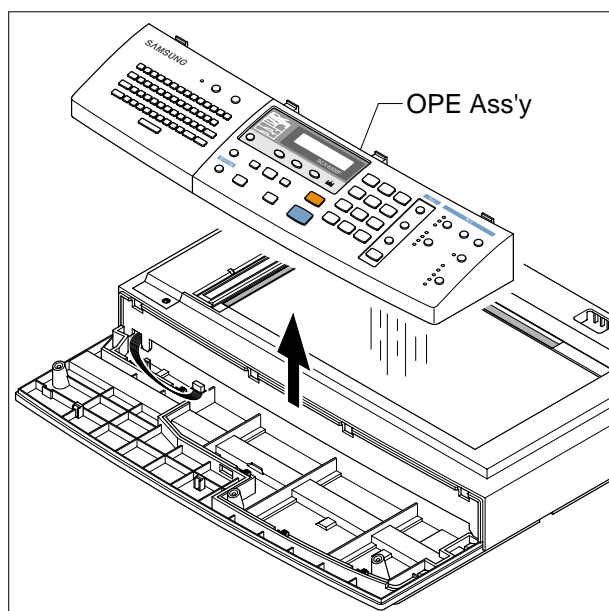
7. Remove the DADF Main Cable.



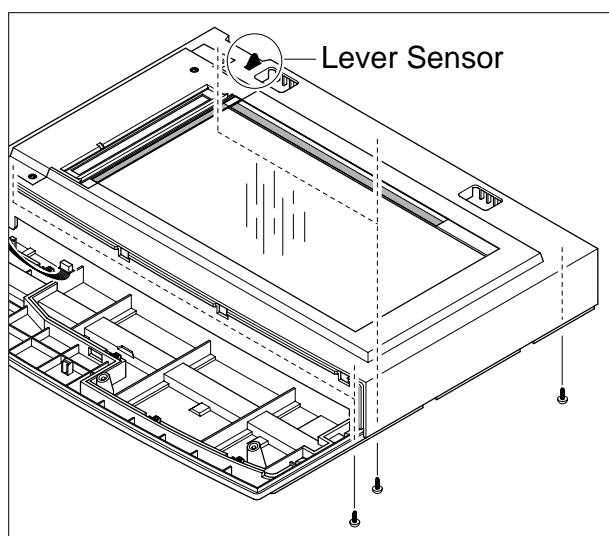
9. Remove the three screws securing the Platen Ass'y.



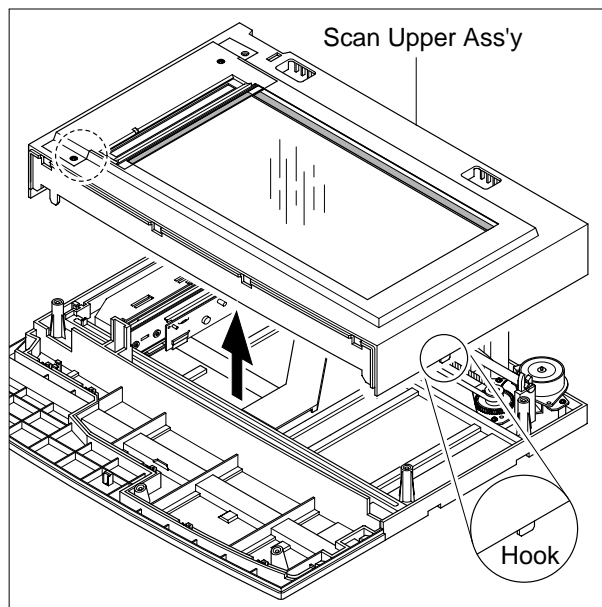
10. Pull the OPE Ass'y and unplug the one connector.



11. Remove the five screws securing the Platen Ass'y.

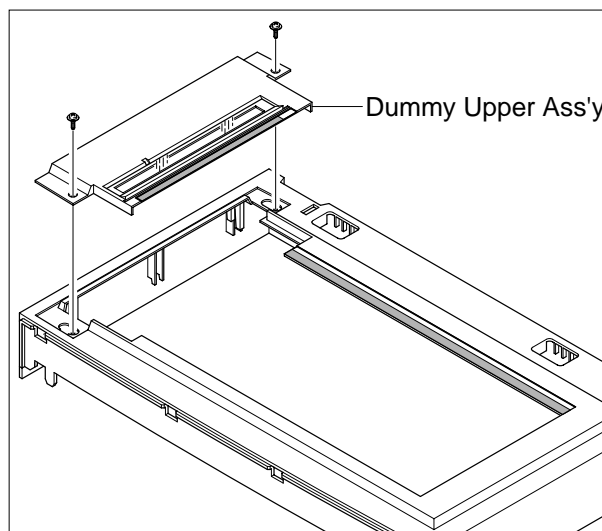


12. Release 2 clips (1 each side) to release the Scan Upper Ass'y securing the glass and remove it. Take care to ensure that the DADF connector is clear.



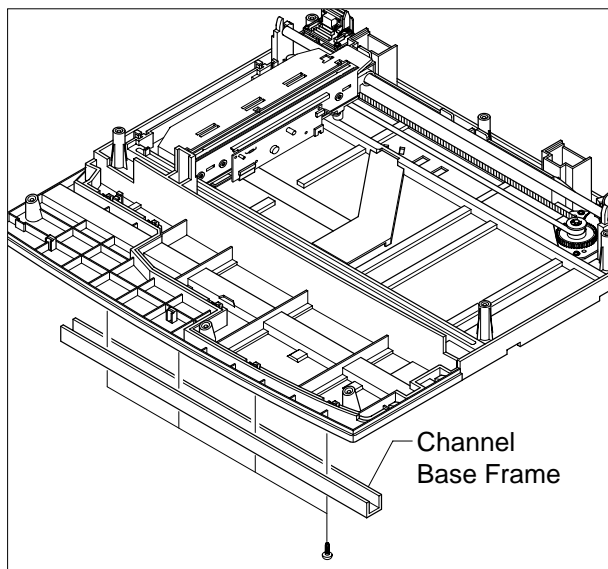
Notice : When reassembling the Scan Upper take care to ensure that the Lever Sensor is free to operate

13. Remove the two screws to remove the Dummy Upper Ass'y.

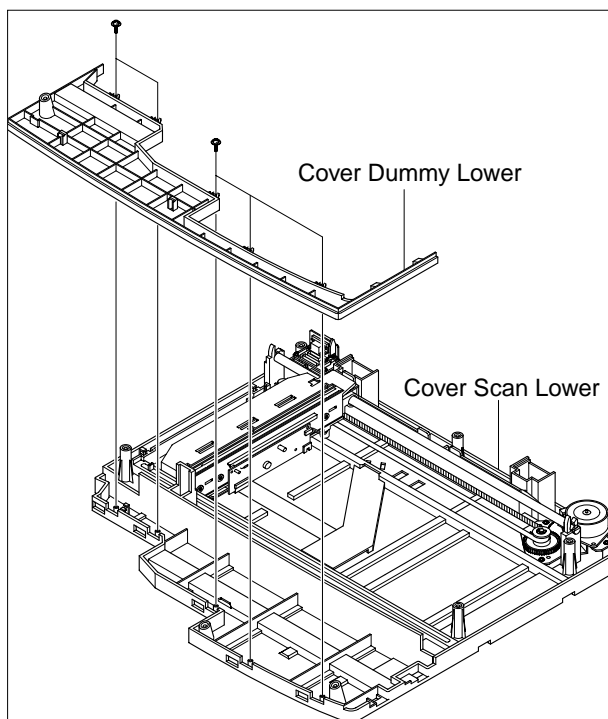


Notice : Dust or other foreign matter can cause the module to jam or image quality to deteriorate. Only open the scanner in a clean environment and ensure all parts are clean when reassembling the scanner.

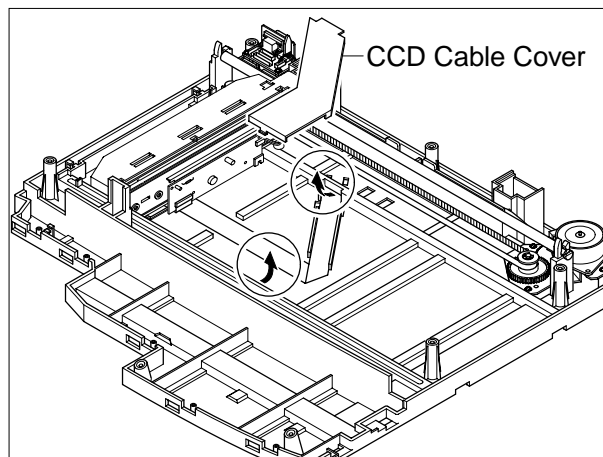
14. Remove four screws to release the Channel Base Frame.



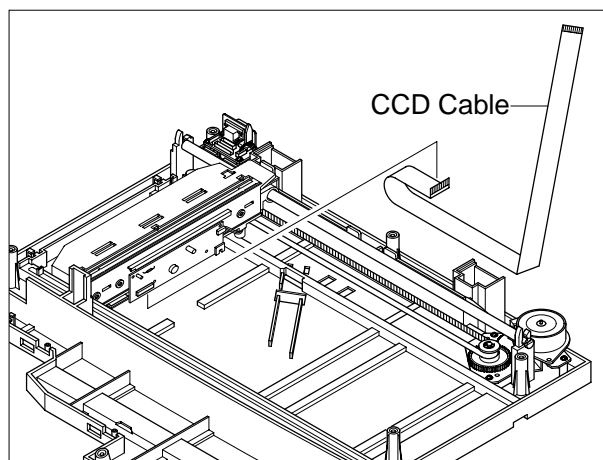
15. Remove the five screws securing the Cover Dummy Lower and remove it.



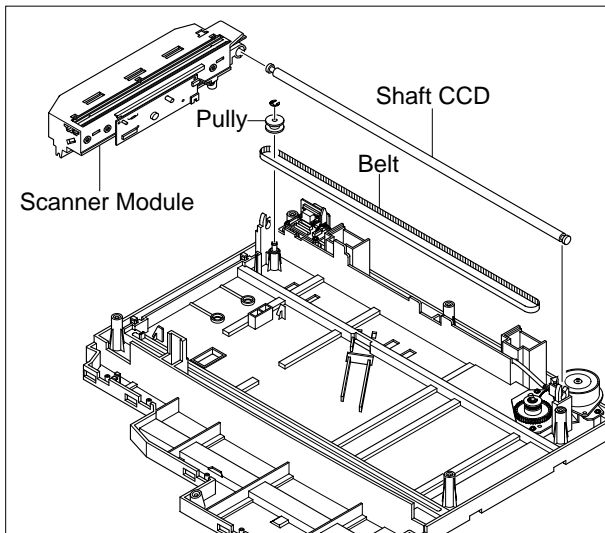
16. Remove the CCD cable cover by flexing and releasing the front clip. Slide the scan module to a position half way along the scanner bed and raise it to a vertical position. Disconnect the CCD cable



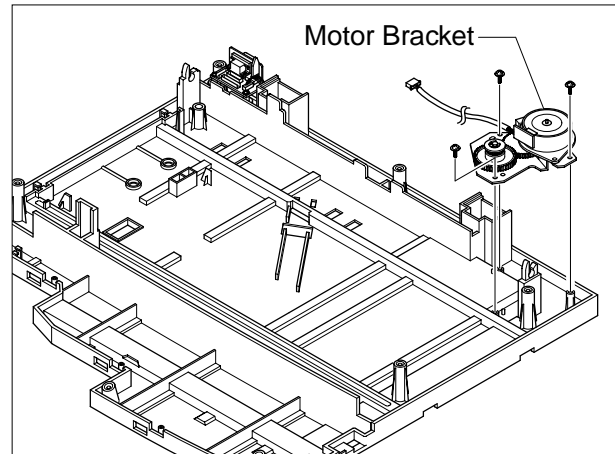
17. Release the belt from the underside of the scanner module. Unclick the Shaft CCD and take out the Scanner Module.



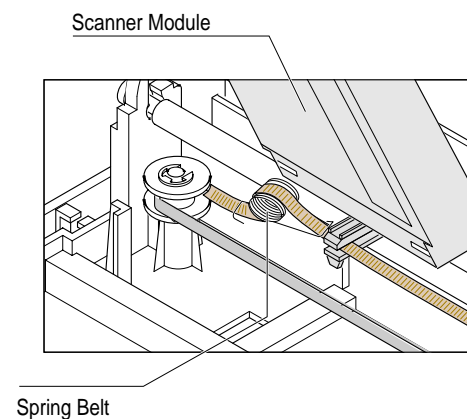
18. Disconnect the motor harness. Remove three screws and take out the Motor Bracket.



19. Remove the OPE Harness from the Platen PBA. Remove two screws and take out the Platen PBA.



Notice : Take care when reassembling the scanner module to the belt. The CCD Module should be located just to the right of the belt tension spring as shown below.

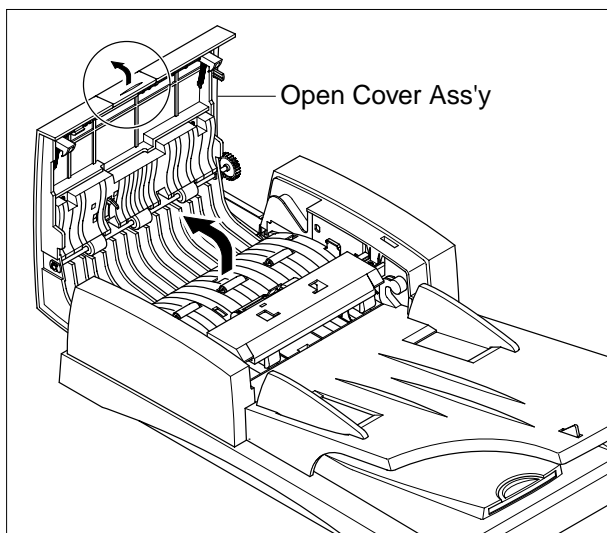


5.5 DADF Ass'y

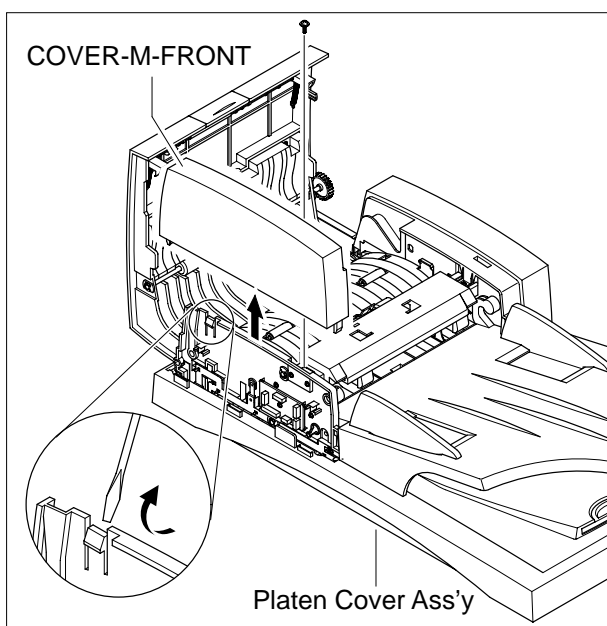
1. Before you remove the DADF Ass'y, you should remove:

- Rear Cover (see page 5-2)
- LIU PBA (see page 5-2)
- Scanner Ass'y (see page 5-3)

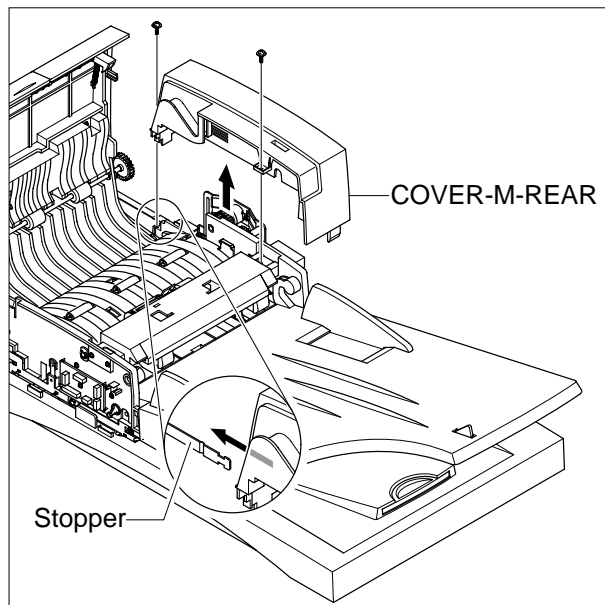
2. Open the Open Cover Ass'y



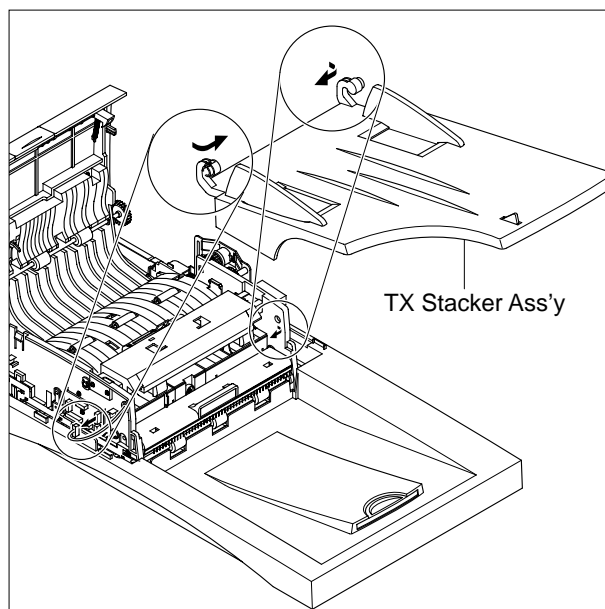
3. Remove the one screw securing the COVER-M-FRONT and unlatch the COVER-M-FRONT using a flat-blade screwdriver, as shown below. Then pull the COVER-M-FRONT upward and remove it.



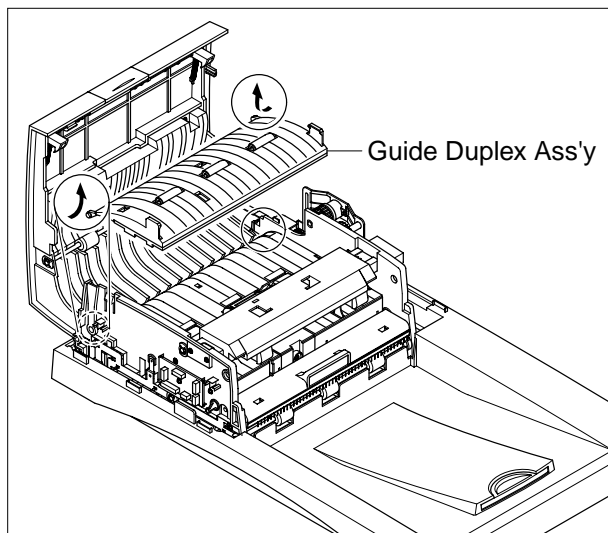
4. Remove the two screws securing the COVER-M-REAR and release the stopper. Then pull the COVER-M-REAR upward and remove it.



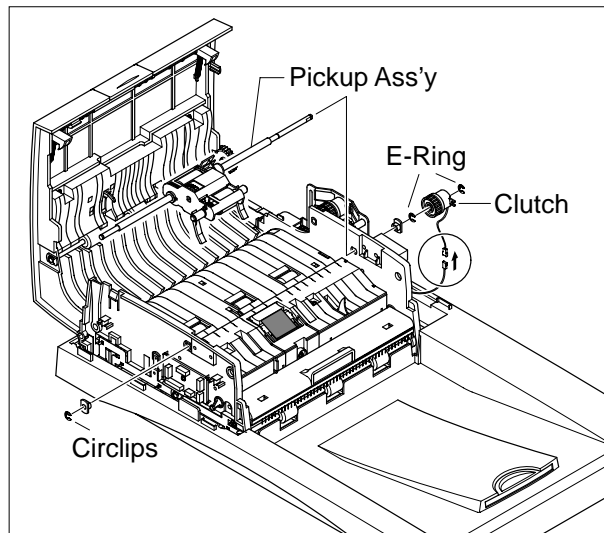
5. Remove the TX Stacker



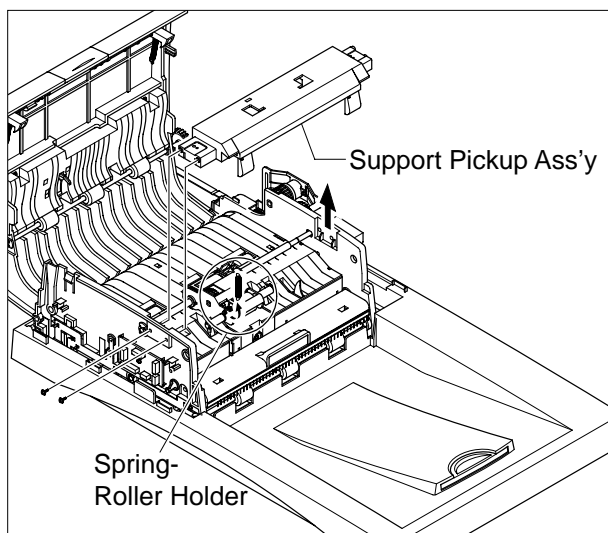
6. Lift the Guide Duplex Ass'y at the front hinge. It may be necessary to gently flex the plastic frame to release the hinge. Take out the Guide Duplex Ass'y, as shown below.



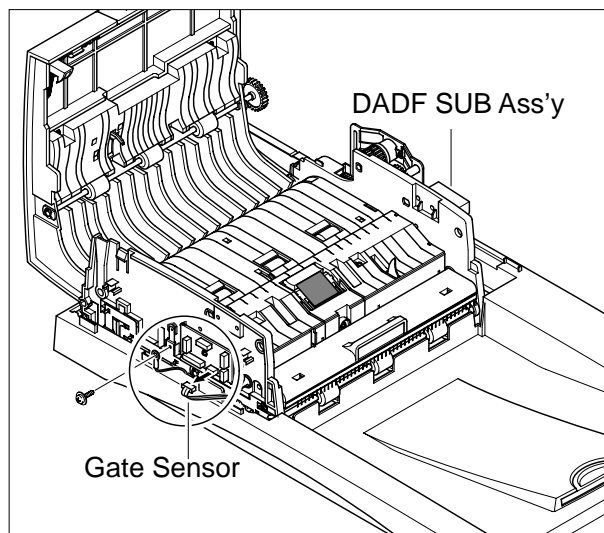
8. Unplug the one connector and remove the circlip on the end of the shaft. Remove the Clutch. Remove 2 further circlips and bushes then take out the Pickup Ass'y, as shown below.



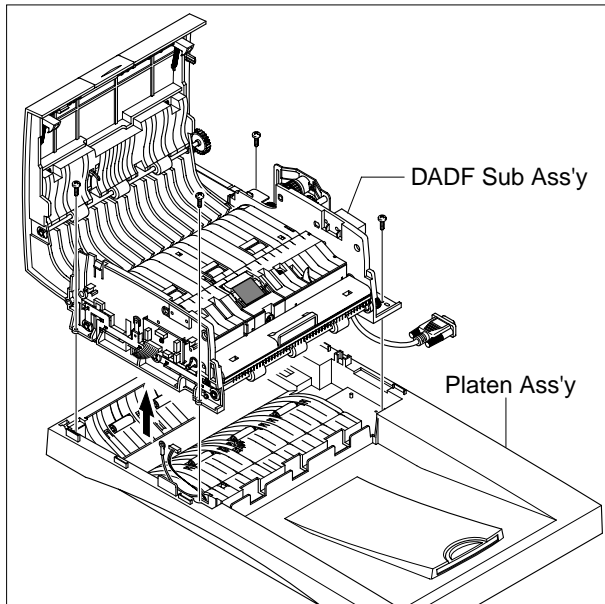
7. Remove the two screws securing the Support Pickup Ass'y. Look under the edge of the Support Pickup Ass'y and release the spring from the Pickup Ass'y. Then remove the Support Pickup Ass'y, as shown below.



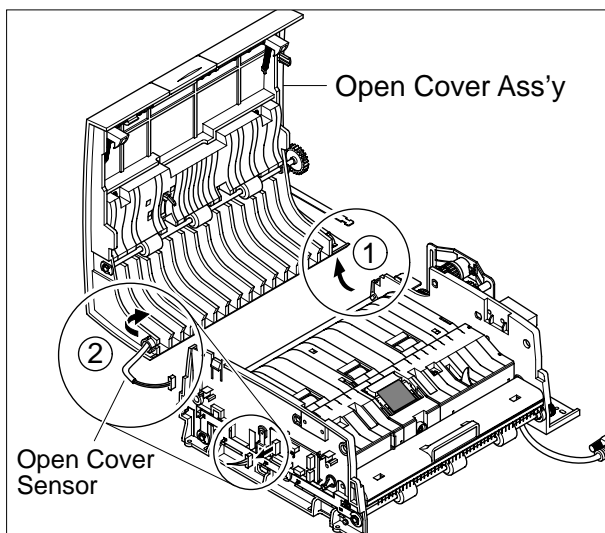
9. Unplug The Gate Sensor connector and remove one screw securing the ground cable.



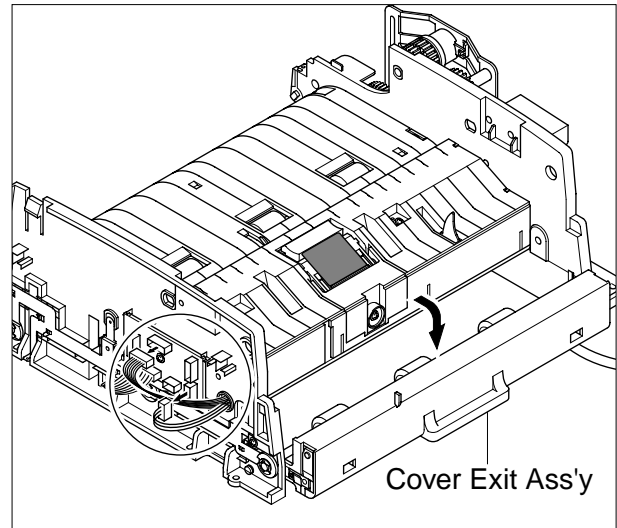
10. Remove the four screws securing the Scan Main Ass'y and remove it.



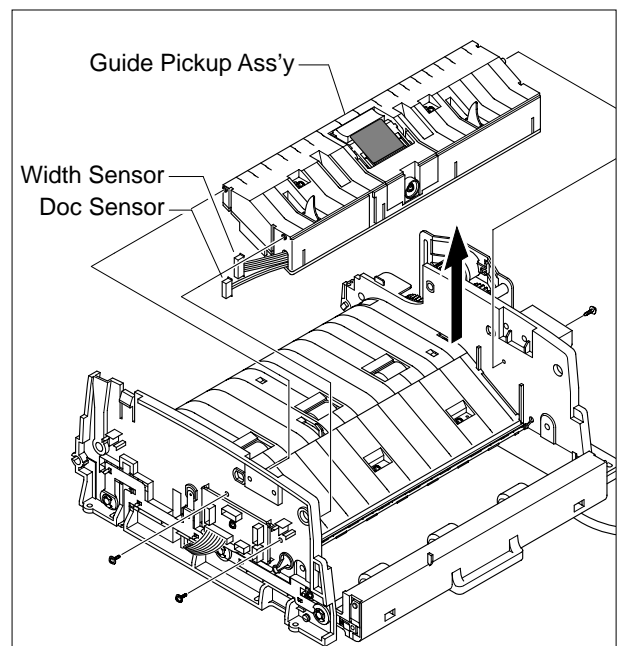
11. Unplug the Open Cover Sensor connector and remove the Open Cover Ass'y in the direction of arrow. Then release the harness, as shown below.



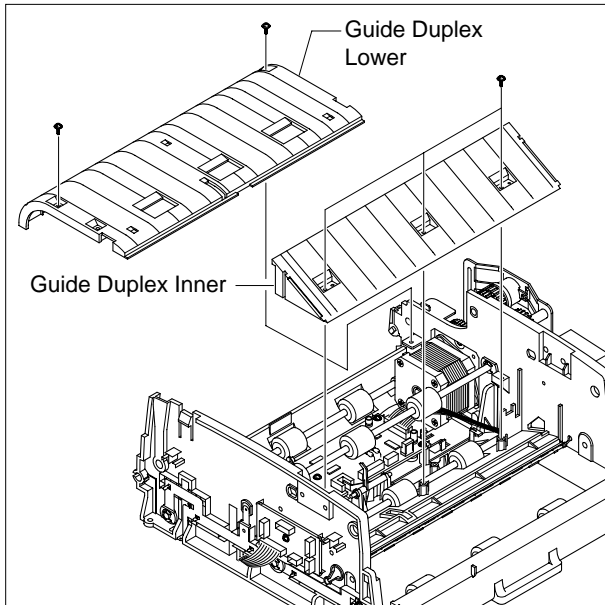
12. Open the Cover Exit Ass'y and unplug the two connectors.



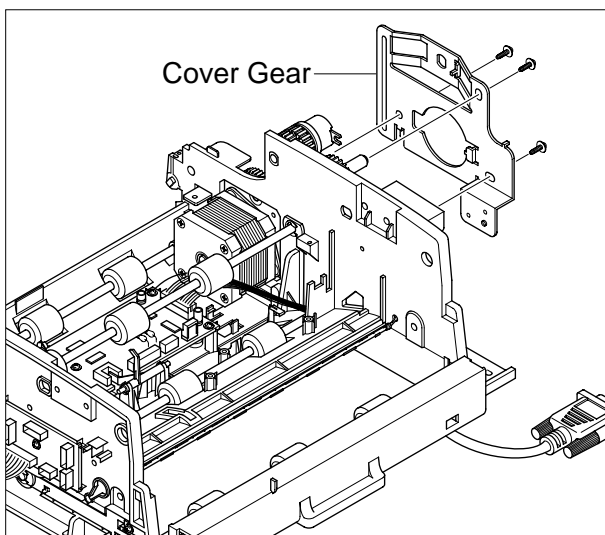
13. Remove the three screws securing the Guide Pickup Ass'y and remove it.



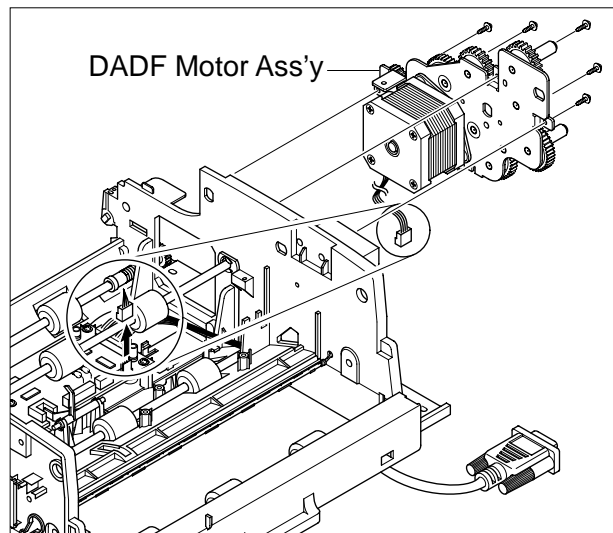
14. Remove the five screws securing the Guide-Duplex-Inner and Guide-Duplex-Lower covers. Then remove them.



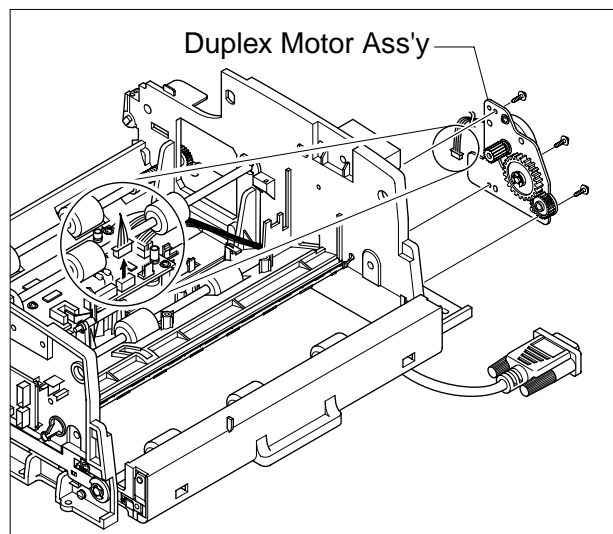
15. Remove the three screws securing the Cover Gear and remove it, as shown below.



16. Unplug the one connector. Then remove the five screws securing the DADF Motor Ass'y and remove it, as shown below.

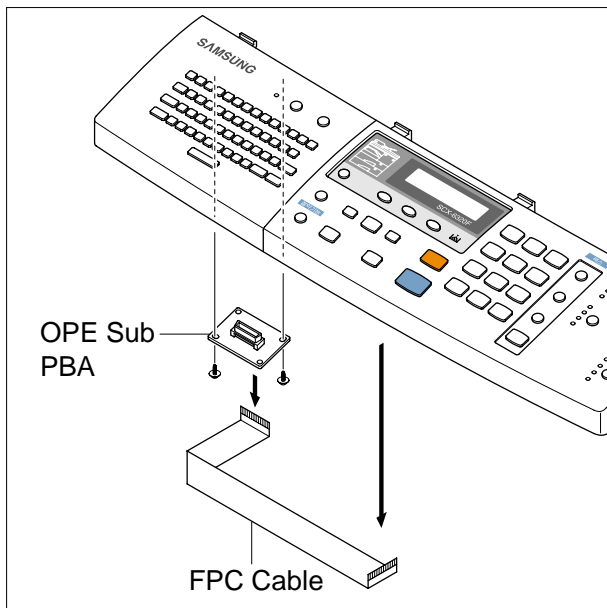


17. Unplug the one connector and three screws securing the Duplex Motor Ass'y and remove it.

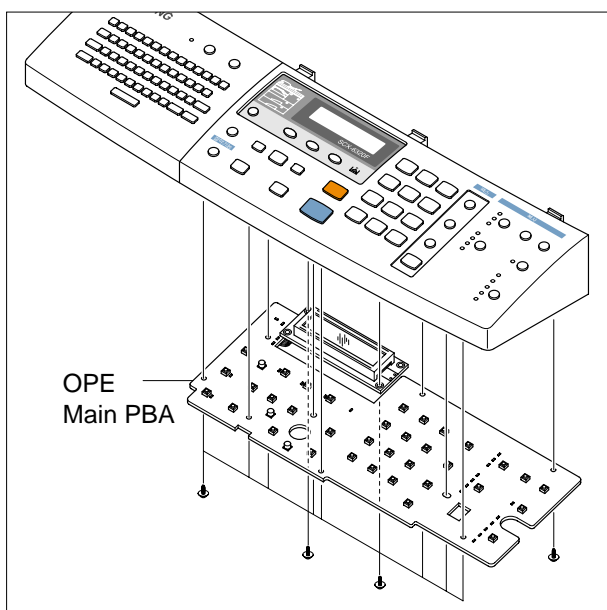


5.6 OPE Ass'y (SCX-6320F shown, SCX6220 is similar)

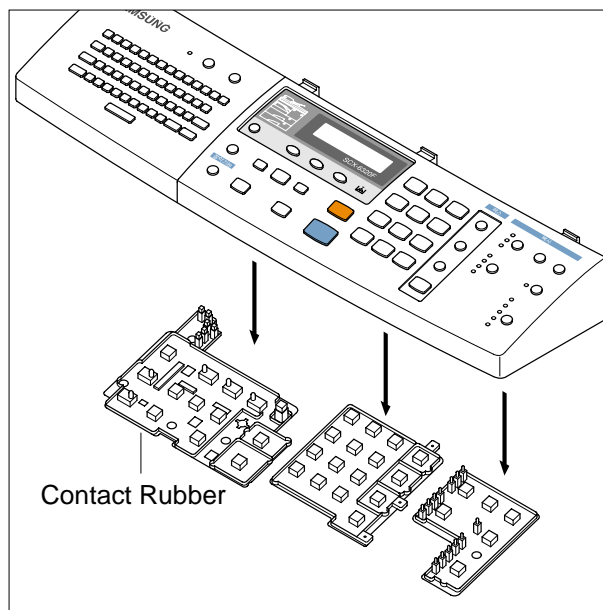
- Before you remove the OPE Ass'y, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)
- Unplug the FPC Cable from the OPE Main PBA. Remove two screws securing the OPE Sub PBA and remove it.



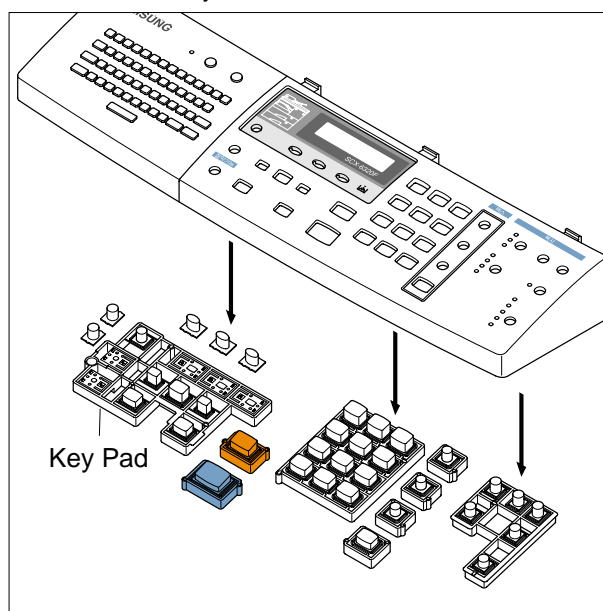
- Remove ten screws securing the OPE Main PBA and the LCD Module from the OPE Cover



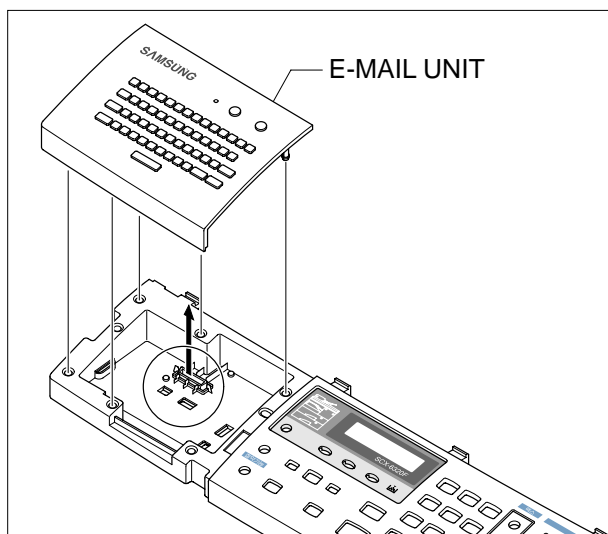
- Remove the Contact Rubbers from the unit.



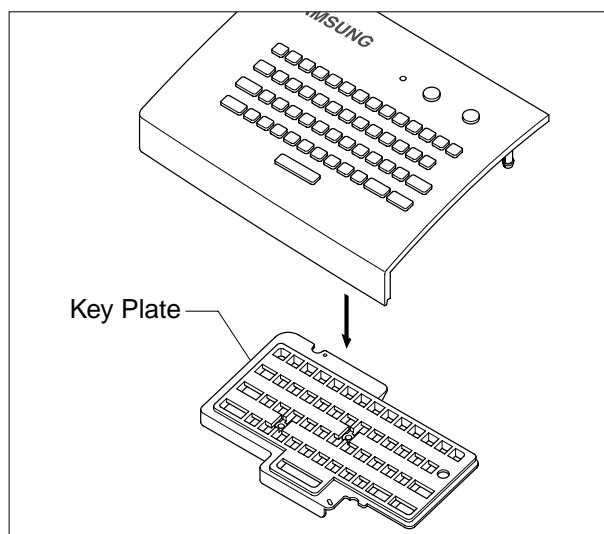
- Remove the Key Pad from the unit.



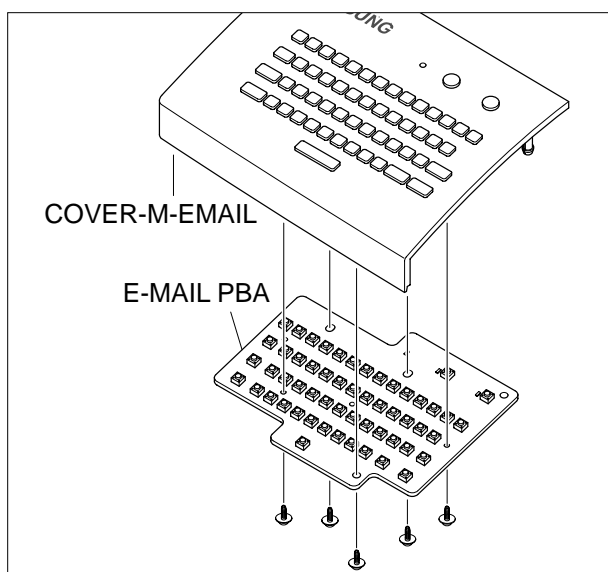
6. Pull up the E-MAIL UNIT.



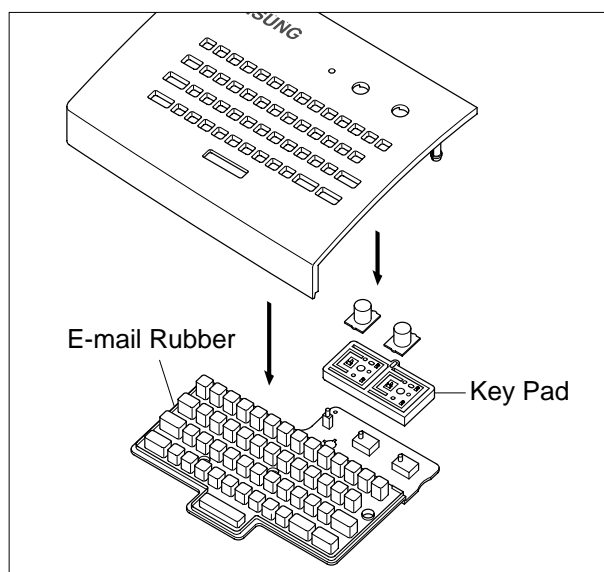
8. Remove the Key Plate from the unit.



7. Remove the five screws securing the E-MAIL Option PBA and remove it.

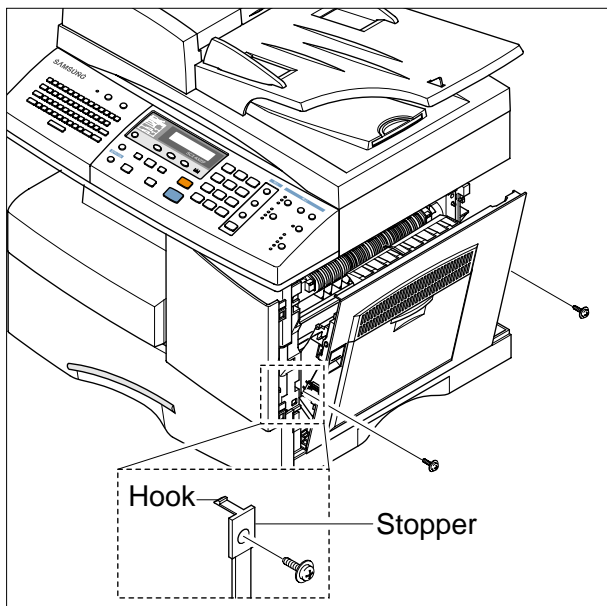


9. Remove the Email Rubber and Key Pad from the unit.

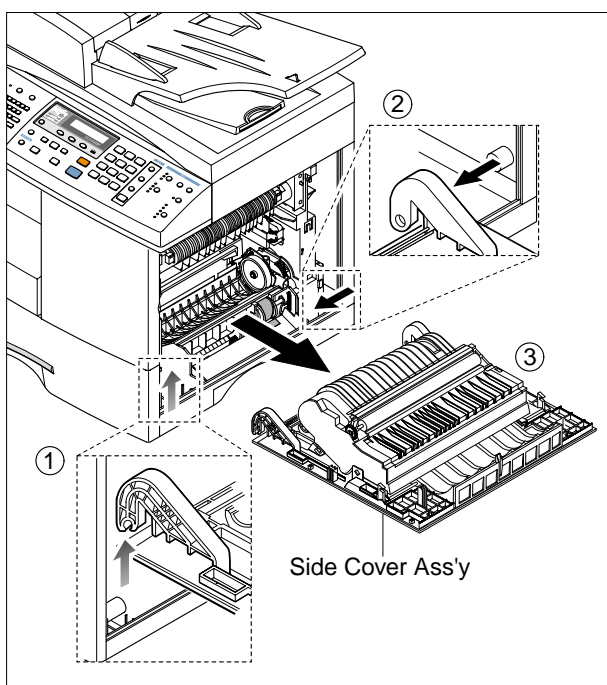


5.7 Side Cover Ass'y

1. Remove two screws to release the Stopper securing the Side Cover to the Main Frame.

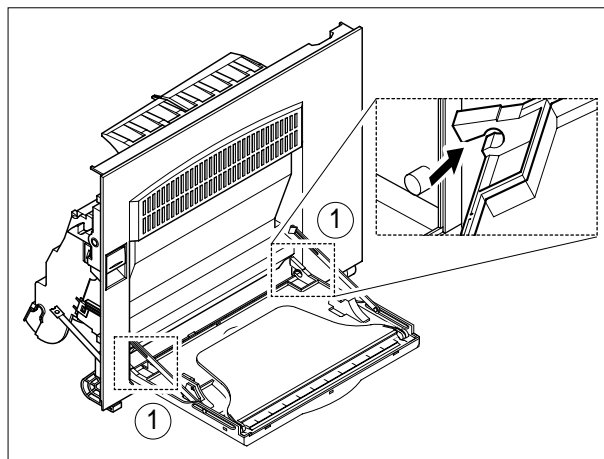


2. Lift hinge ① to release it and then slide the Side Cover Ass'y towards the front to release hinge ② and lift out the cover.

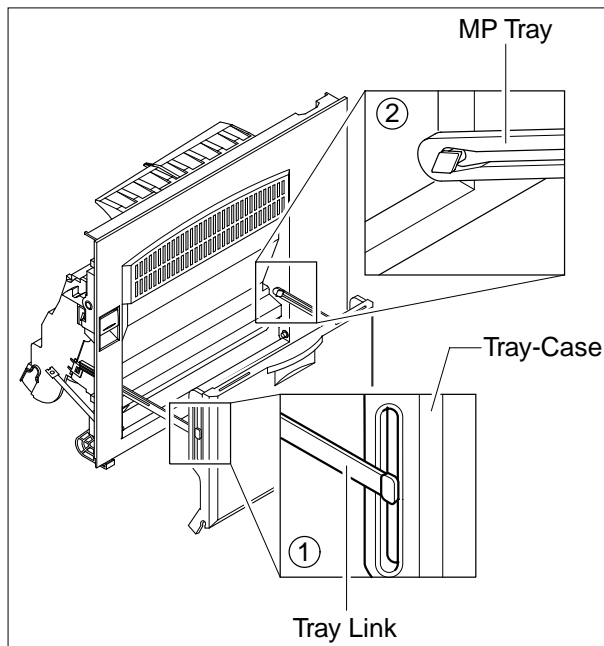


* MP-Tray

1. Pull firmly on both hinges ① to release them.

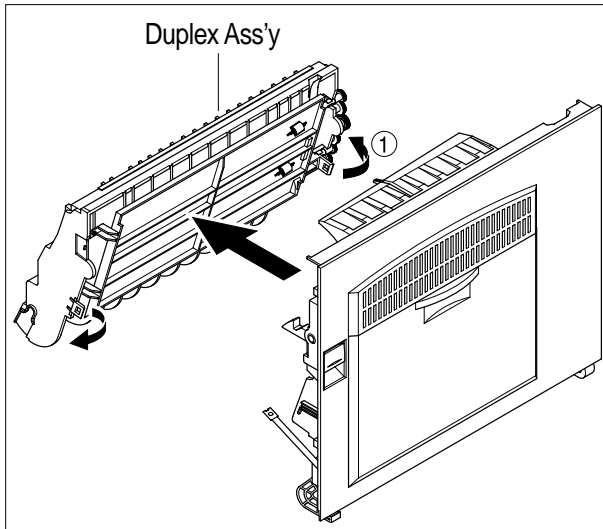


2. Taking care not to damage the Tray Links position the Tray Case so that the Tray Links are at 45° and release the Tray Links from the slot in the Tray Case.



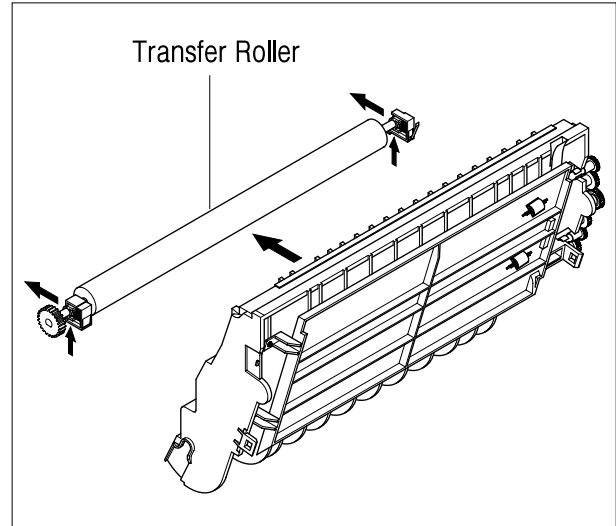
* Duplex Ass'y

1. Release 4 clips (2 each side – 1 black and 1 white).
Then lift the Duplex Ass'y away from the Side Cover.



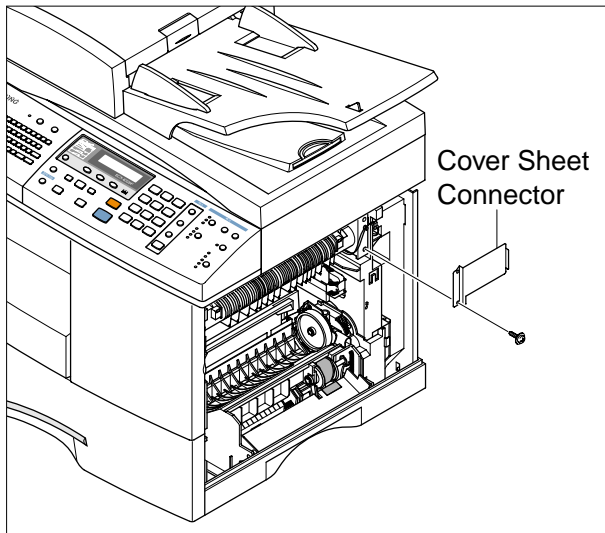
* Transfer Roller Ass'y

1. Release the colored plastic bushes at each end of the Transfer Roller and lift the roller out, as shown below.

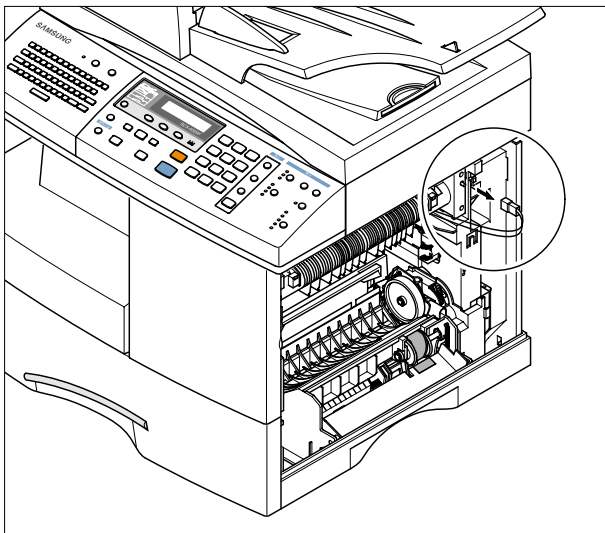


5.8 Fuser Ass'y

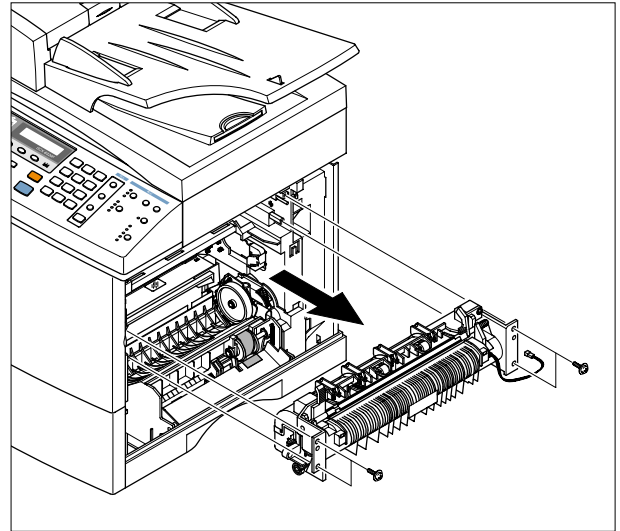
1. Before you remove the Fuser Ass'y, you should be power off and remove:
 - Rear Cover (see page 5-2)
 - Side Cover Ass'y (see page 5-13)
2. Remove the one screw and take out the Cover Sheet Connector.



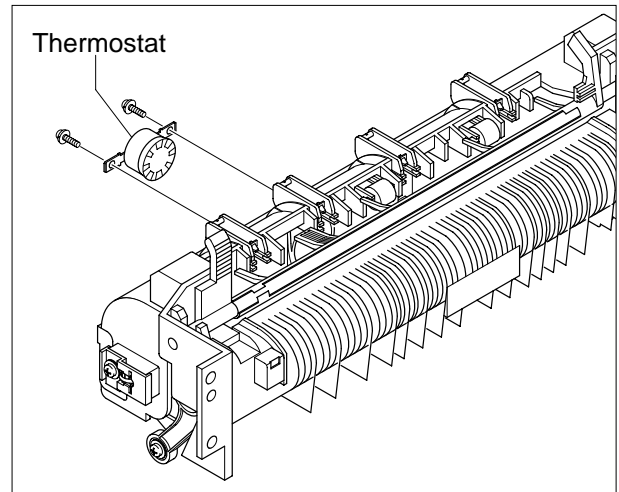
3. Unplug the one connector.



4. Open the Front Door and then remove the three screws and take out the Fuser Ass'y.

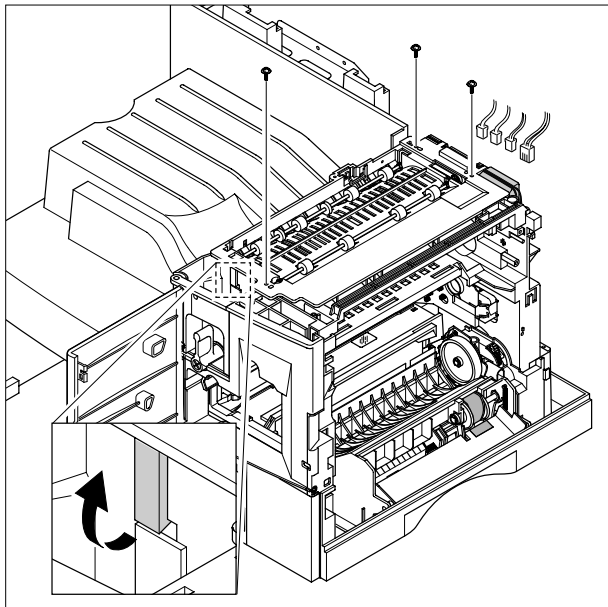


5. Remove the two screws and take out the Thermostat.

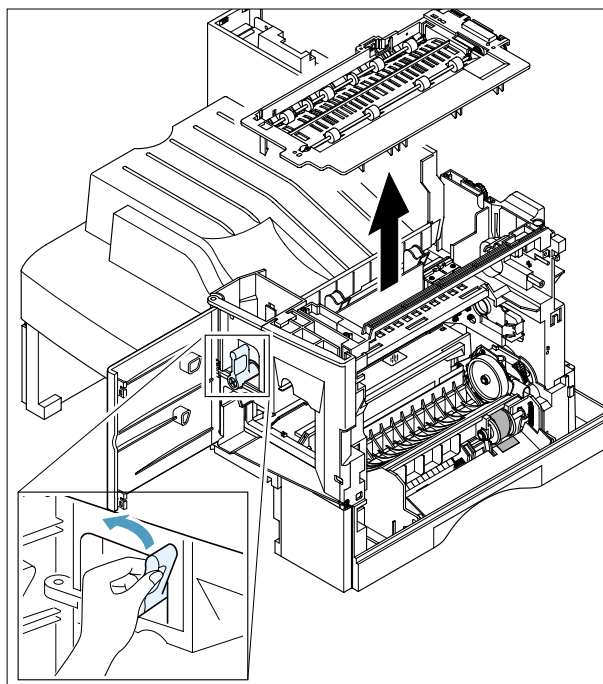


5.9 Exit Ass'y

- Before you remove Exit Ass'y, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)
- Remove three screws, and then untie the harness from the Exit Upper. Unplug one connector from the Main PBA and unlatch the Dummy Base Frame using a flat blade screwdriver, as shown below.

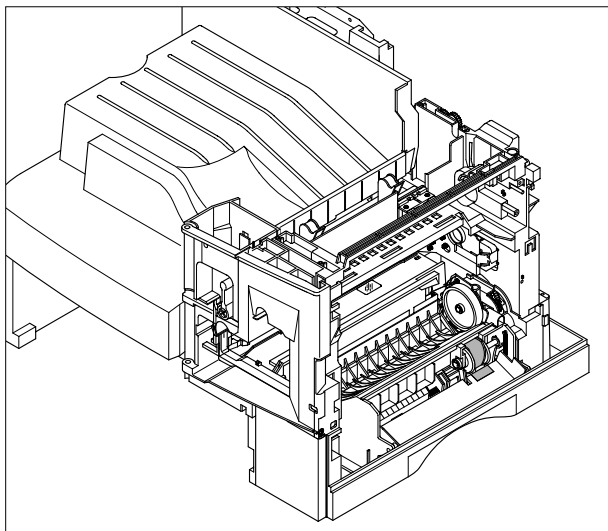


- Lift the exit ass'y and remove it.

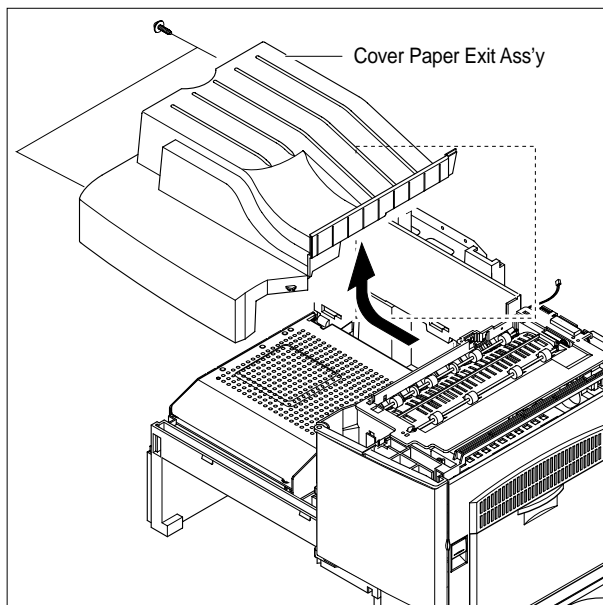


5.10 Cover Paper Exit Ass'y

- Before you remove the Cover Paper Exit Ass'y, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)

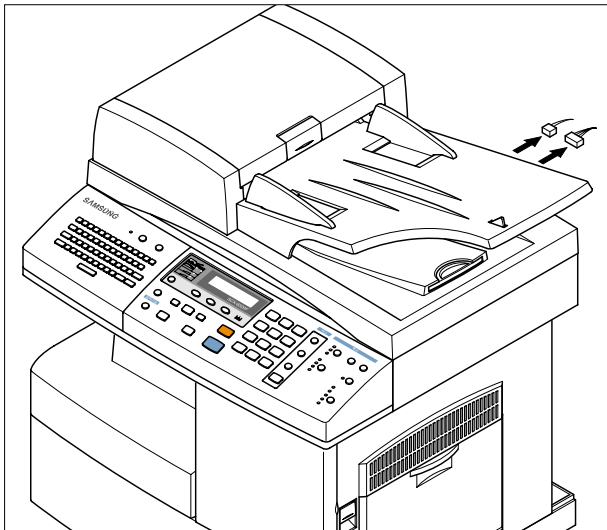


- Remove two screws and Cover Paper Exit Ass'y, as shown below.

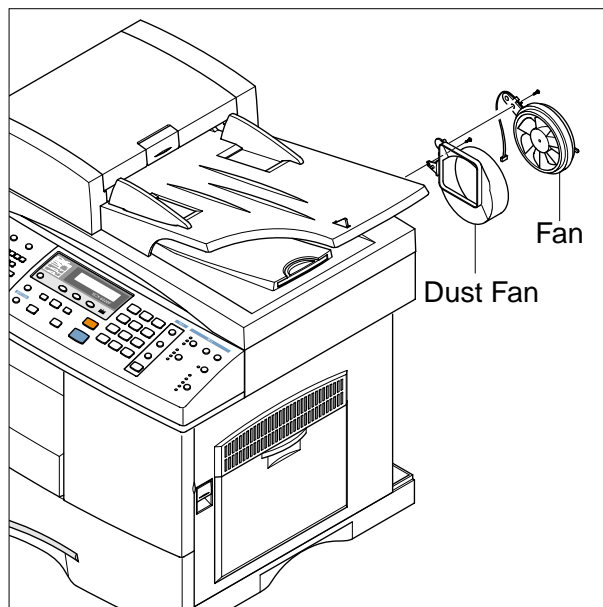


5.11 Drive Ass'y

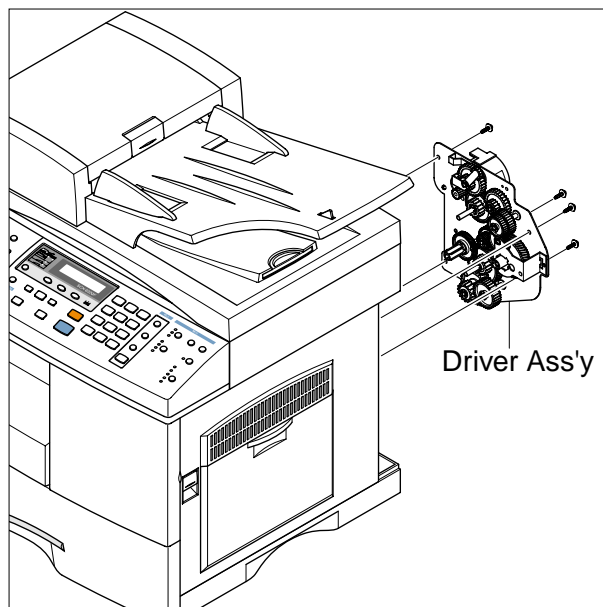
1. Before you remove the Drive Ass'y, you should remove:
 - Rear Cover (see page 5-2)
2. Unplug the two connectors.
(Main Motor : 10 pin, Duplex Motor : 4 pin)



3. Disconnect the fan harness from the Main PBA.
Remove one screw and take out the Fan and Dust Fan.



4. Remove four screws (2 screws securing ground wires and 1 screw securing the Zener PBA) and take out the Drive Ass'y, taking care not to damage the Zener PBA.

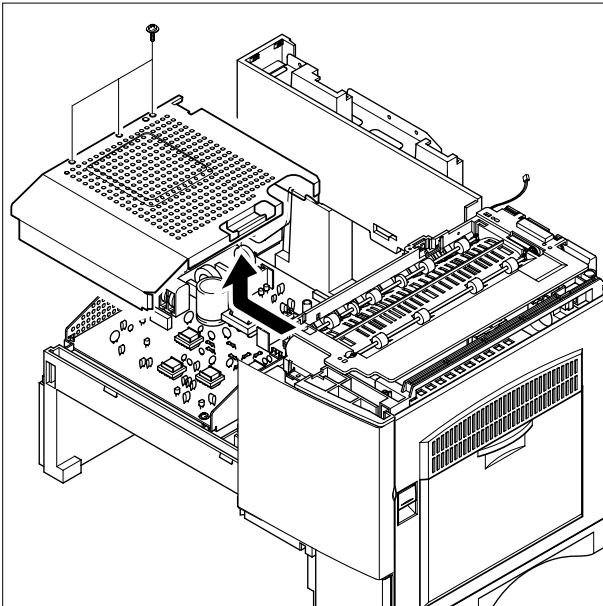


5.12 SMPS

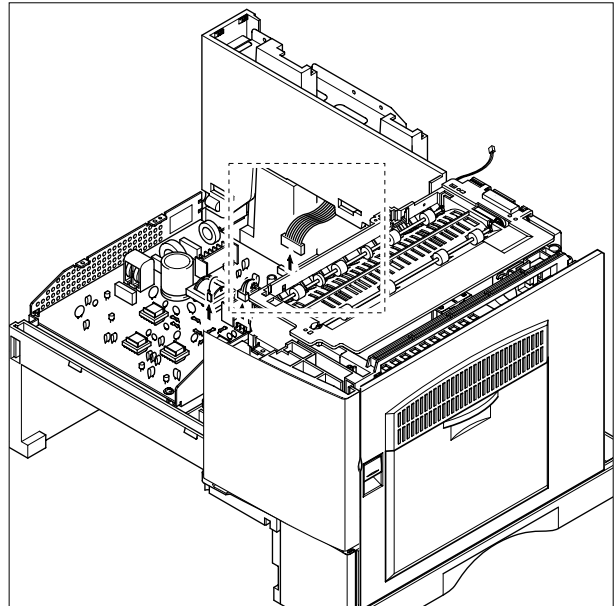
1. Before you remove the LSU, you should remove:

- Rear Cover (see page 5-2)
- LIU PBA (see page 5-2)
- Scanner Ass'y (see page 5-3)
- Cover Paper Exit Ass'y(see page 5-17)

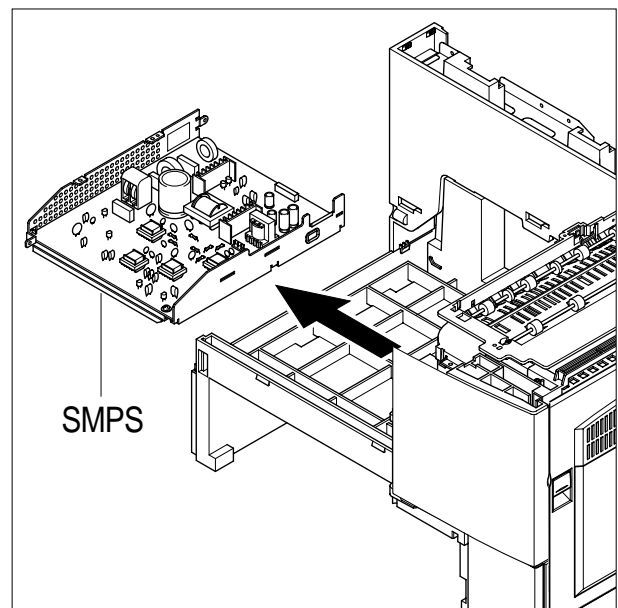
2. Remove three screws and take out the Shield SMPS Upper.



3. Unplug the all connectors.

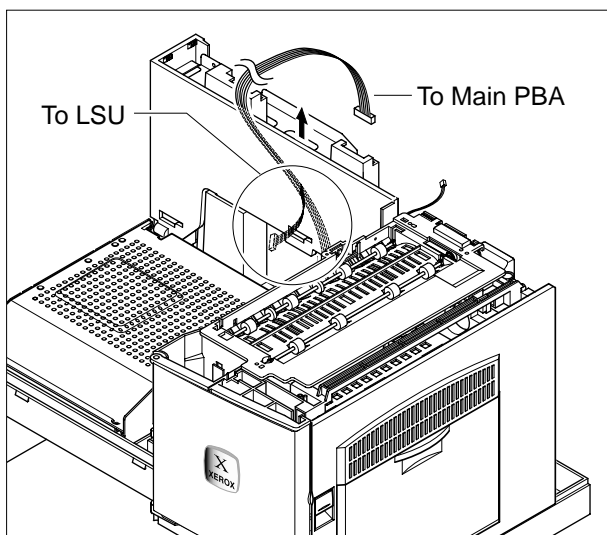


4. Remove the SMPS, as shown below.

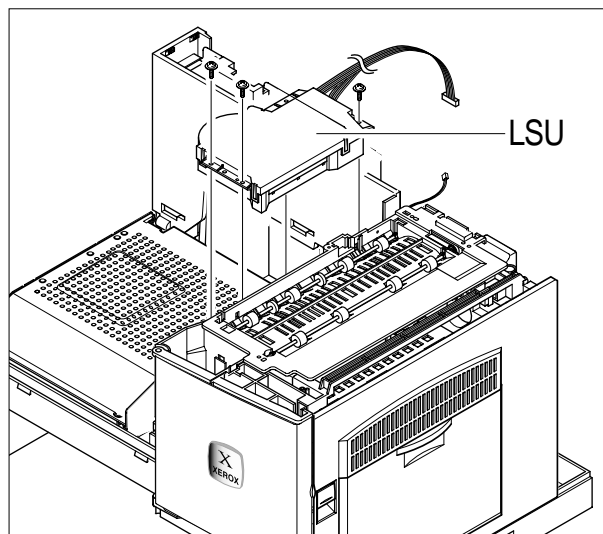


5.13 LSU (Laser Scanning Unit)

- Before you remove the LSU, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)
 - Cover Paper Exit Ass'y (see page 5-17)
- Unplug the two connectors.

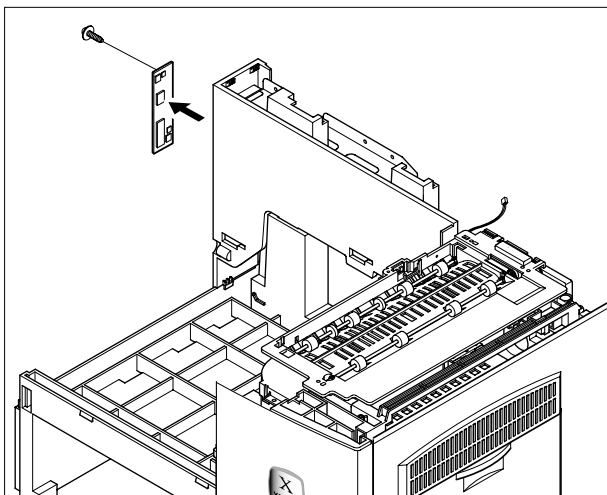


- Remove the three screws and take out the LSU.

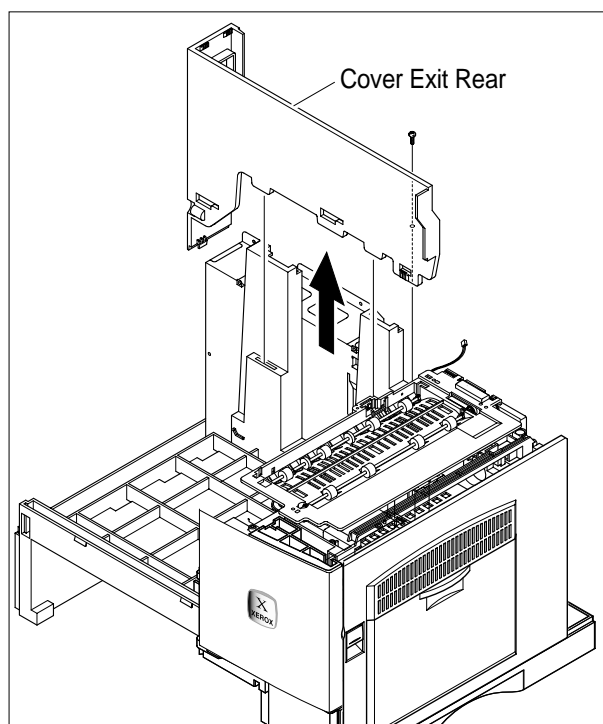


5.14 Cover Exit Rear

- Before you remove the Cover Exit Rear, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)
 - Exit Ass'y (see page 5-17)
 - Cover Paper Exit Ass'y (see page 5-17)
 - SMPS (see page 5-19)
- Remove the one screw and take out the Panel Connect MPF.

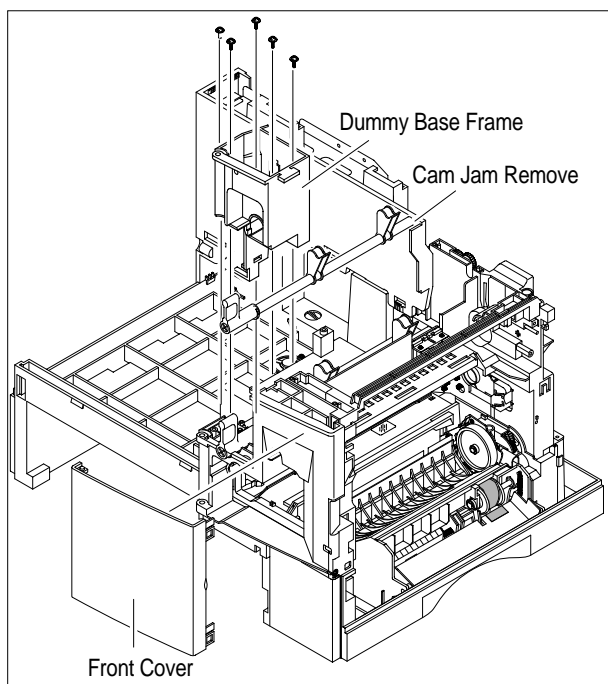


- Remove the one screw and Cover Exit Rear, as shown below.

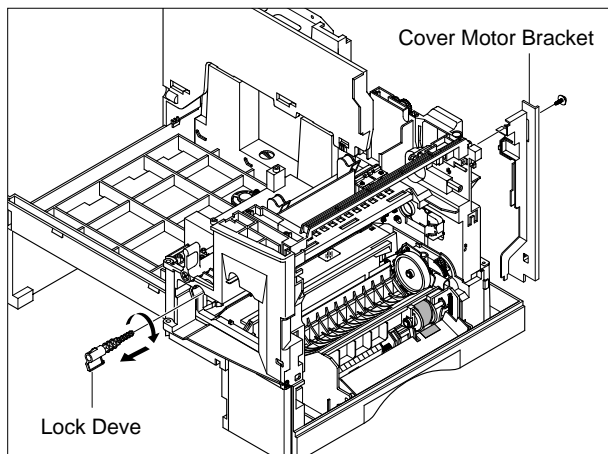


5.15 Main Frame Ass'y

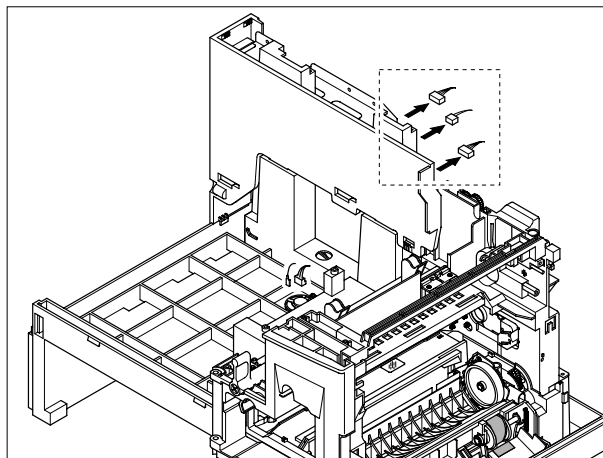
- Before you remove the LSU, you should remove:
 - Rear Cover (see page 5-2)
 - LIU PBA (see page 5-2)
 - Scanner Ass'y (see page 5-3)
 - Side Cover Ass'y (see page 5-13)
 - Fuser (see page 5-15)
 - Exit Ass'y (see page 5-17)
 - Cover Paper Exit Ass'y (see page 5-17)
 - SMPS (see page 5-19)
 - LSU (see page 5-20)
- Remove 3 screws located inside the Dummy Base Frame and 1 screw securing the Dummy Base Frame to the Channel Base Frame. Disconnect the Counter harness. Lift out the Dummy Base Frame and the jam release mechanism.



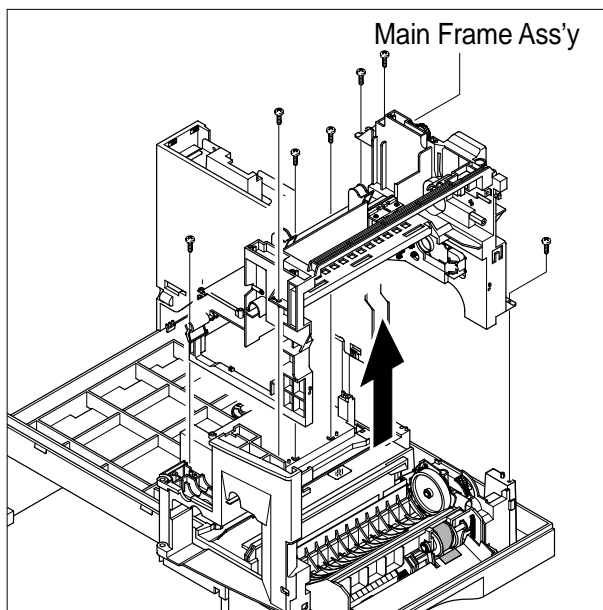
- Remove the Lock Deve, and then remove one screw and the Cover Motor Bracket.



- Unplug the all connectors.



- Remove the seven screws and take out the Main Frame Ass'y.

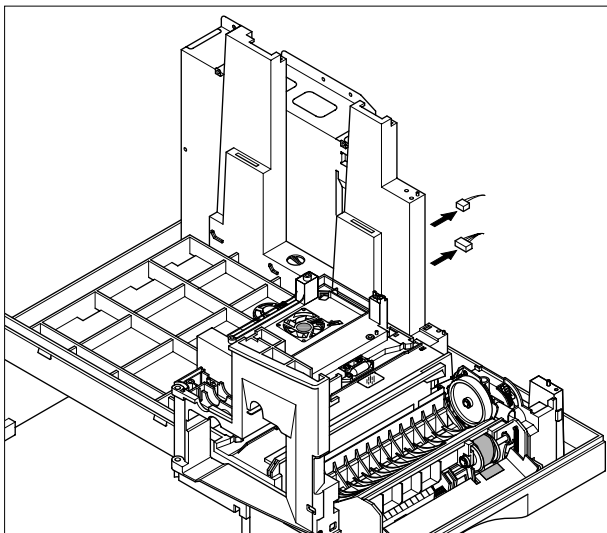


5.16 MP Ass'y

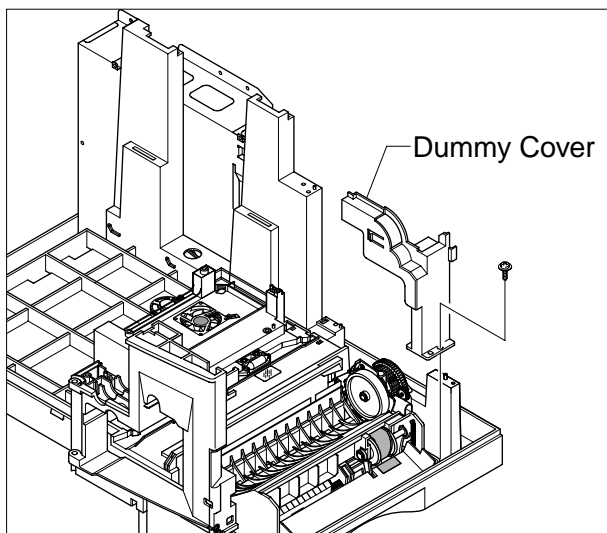
1. Before you remove the MP Ass'y, you should remove:

- Rear Cover (see page 5-2)
- LIU PBA (see page 5-2)
- Side Cover Ass'y (see page 5-13)

2. Unplug the two connectors.

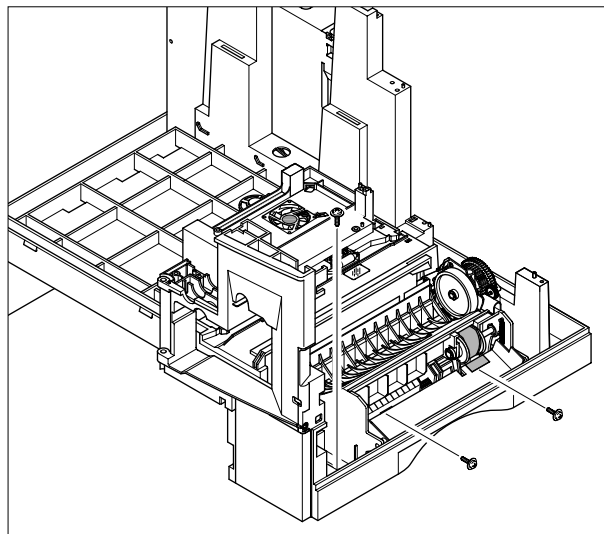


3. Remove the one screw and take out the Dummy

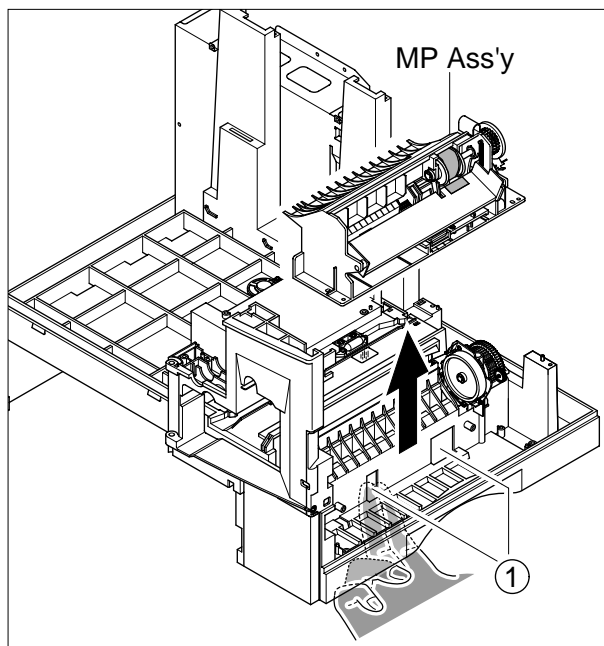


Cover.

4. remove the three screws.



5. Release two hooks underneath the frame. Pull the MP Ass'y upward and remove it.

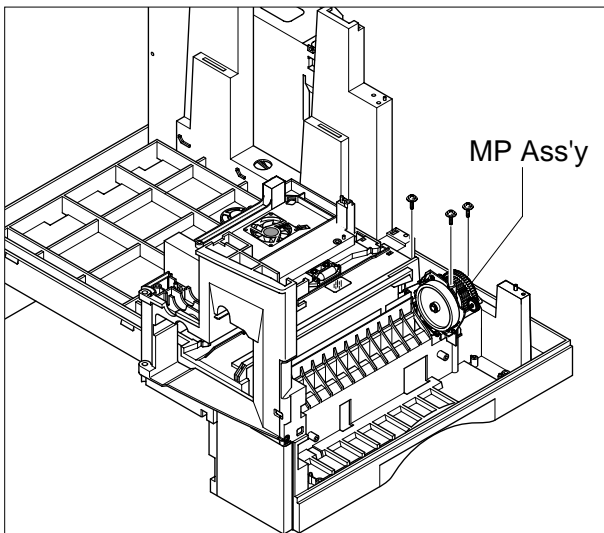


5.17 Feed Ass'y

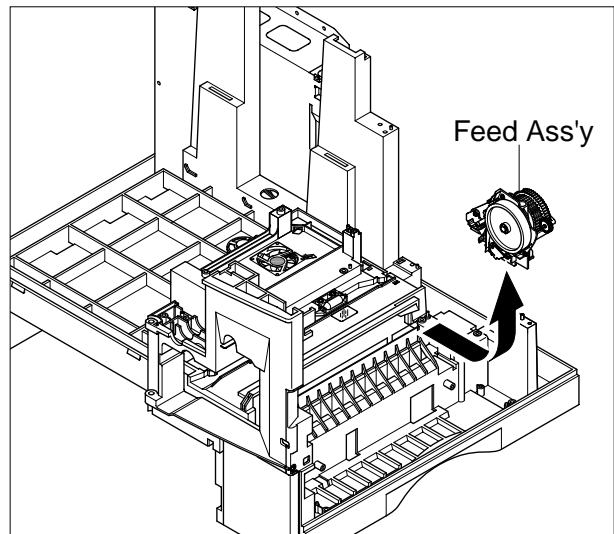
1. Before you remove the Feed Ass'y, you should remove:

- Rear Cover (see page 5-2)
- LIU PBA (see page 5-2)
- Scanner Ass'y (see page 5-3)
- Side Cover Ass'y (see page 5-13)
- Exit Ass'y (see page 5-17)
- Cover Paper Exit Ass'y (see page 5-17)
- LSU (see page 5-20)
- Main Frame Ass'y (see page 5-21)
- MP Ass'y (see page 5-22)

2. Remove the three screws.

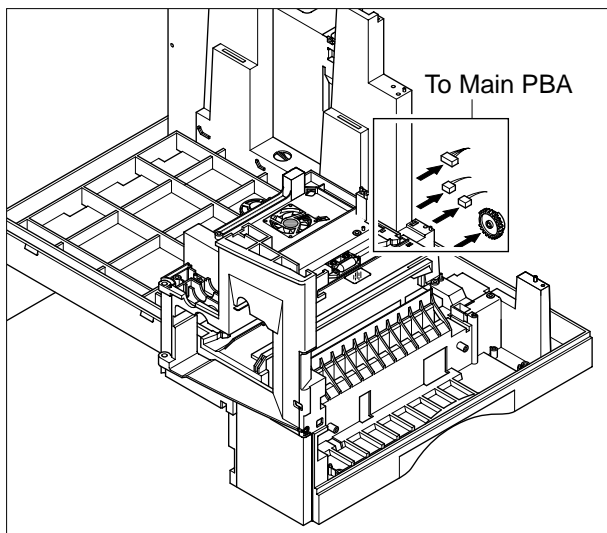


3. Pull the Feed Ass'y upward and remove it.

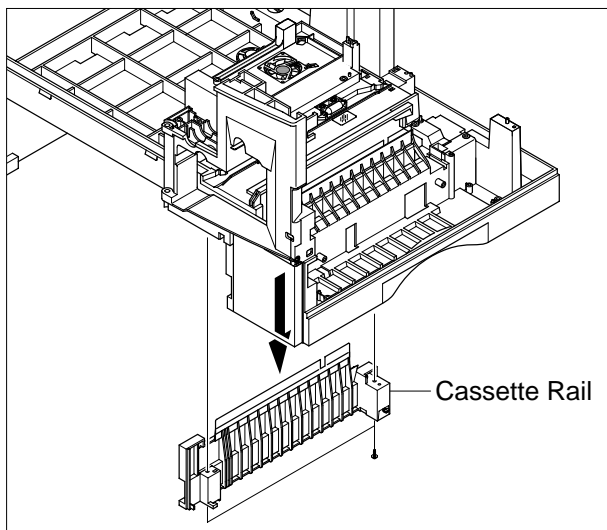


5.18 Pick Up Ass'y

- Before you remove the Pick Up Ass'y, you should remove:
 - Rear Cover (see page 5-2)
 - Drive Ass'y (see page 5-14)
- Remove three connector and take out the pick up gear.



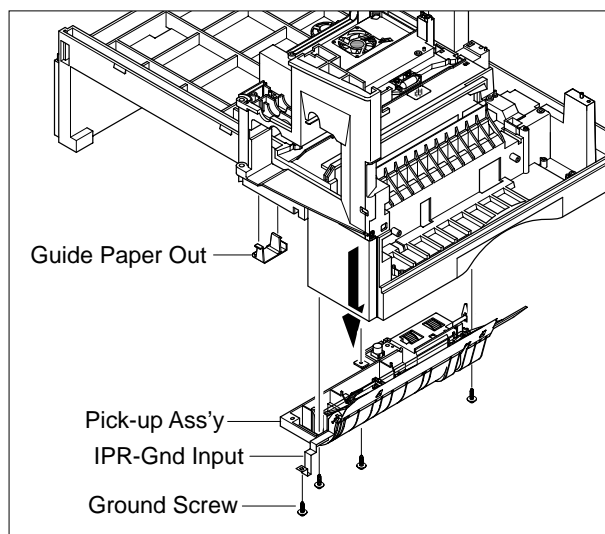
- Remove the two screws and take out the Cassette Rail.



- Unlatch the shaft bush.



- Remove the three screws and one ground screw shown below. Release the paper Pickup Roller bush (white plastic clip) and take out the Pick Up Ass'y, as shown below.



5.19 Main PBA

To remove the Main PBA without major disassembly

1. Before you remove the Main PBA, you should remove:

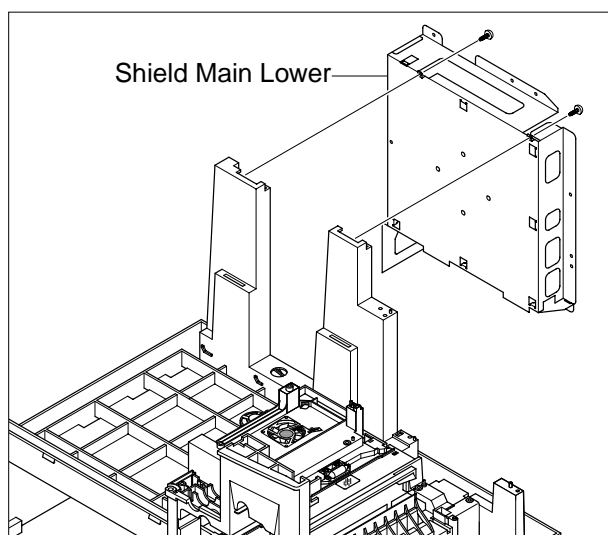
- Rear Cover (see page 5-1)
- LIU PBA (see page 5.??)

Goto Step 4

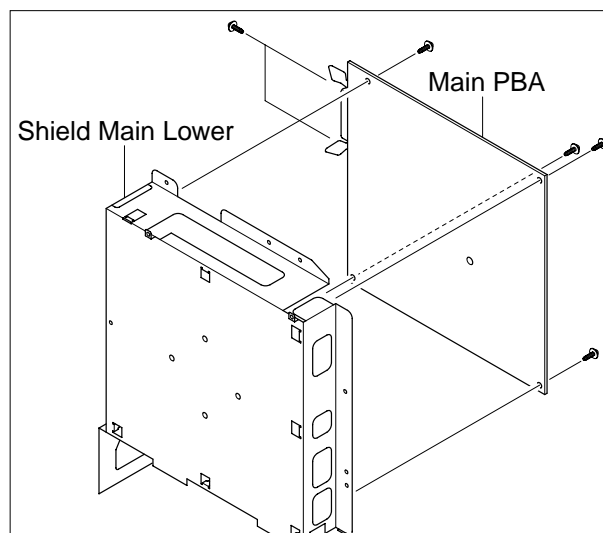
In order to remove the Shield Main Lower you must also remove:

- Scanner Ass'y (see page 5-2)
- Cover Paper Exit Ass'y (see page 5-16)
- SMPS (see page 5-18)

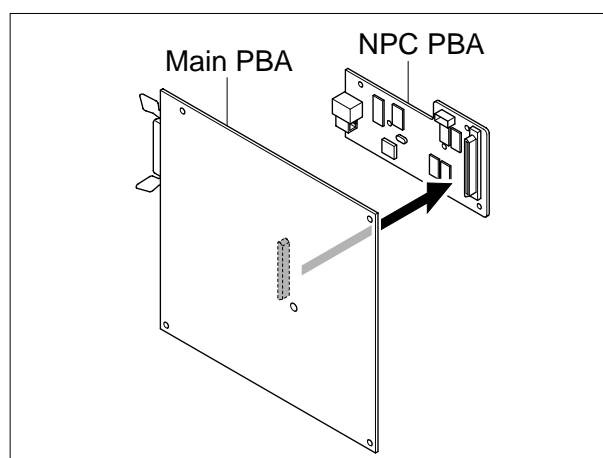
2. Remove the two frame screws and 2 ground wire screws. Take out the Shield Main taking care to ease the power socket from the LH frame.



3. Remove the 2 screws securing the parallel connector and 4 screws holding the Main PBA to the Shield Main Lower. Take out the Main PBA from the Shield Main Lower.



4. If fitted release the plastic support securing the NPC PBA to the Main PBA



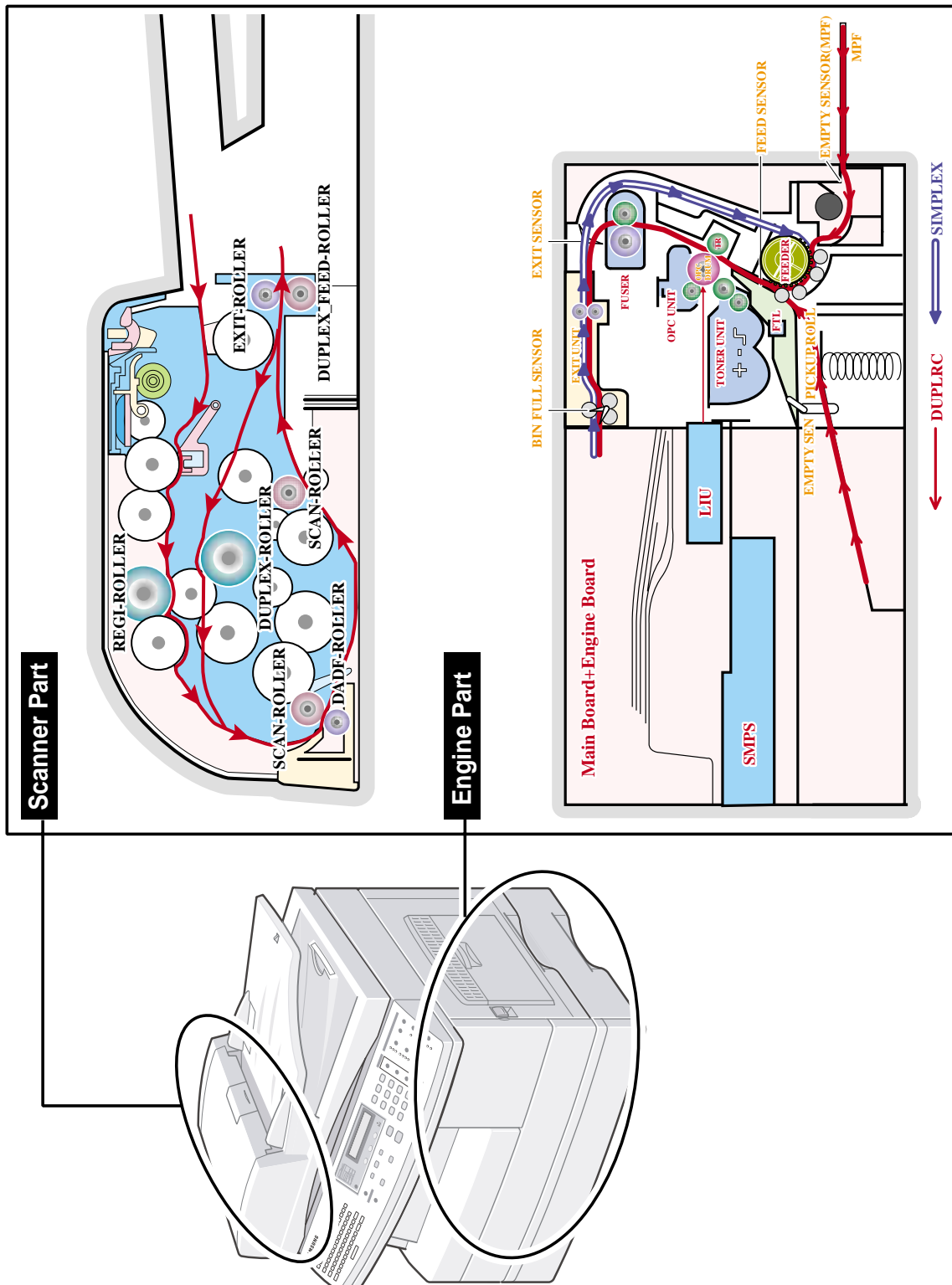
MEMO



6. Alignment and Adjustments

This chapter describes some of the main service procedures including:
Using the Tech Mode; Clearing paper jam and test patterns.
Much of this chapter is also included in the user's guide.

6.1 Paper path



6.2 Clearing Paper Jams

Occasionally, paper can be jammed during a print job. Some of the causes include:

- The tray is loaded improperly or overfilled.
- The tray has been pulled out during a print job.
- The front cover has been opened during a print job.
- Paper was used that does not meet paper specifications.
- Paper that is outside of the supported size range was used.

If a paper jam occurs an error message appears in the LCD display. Find and remove the jammed paper.

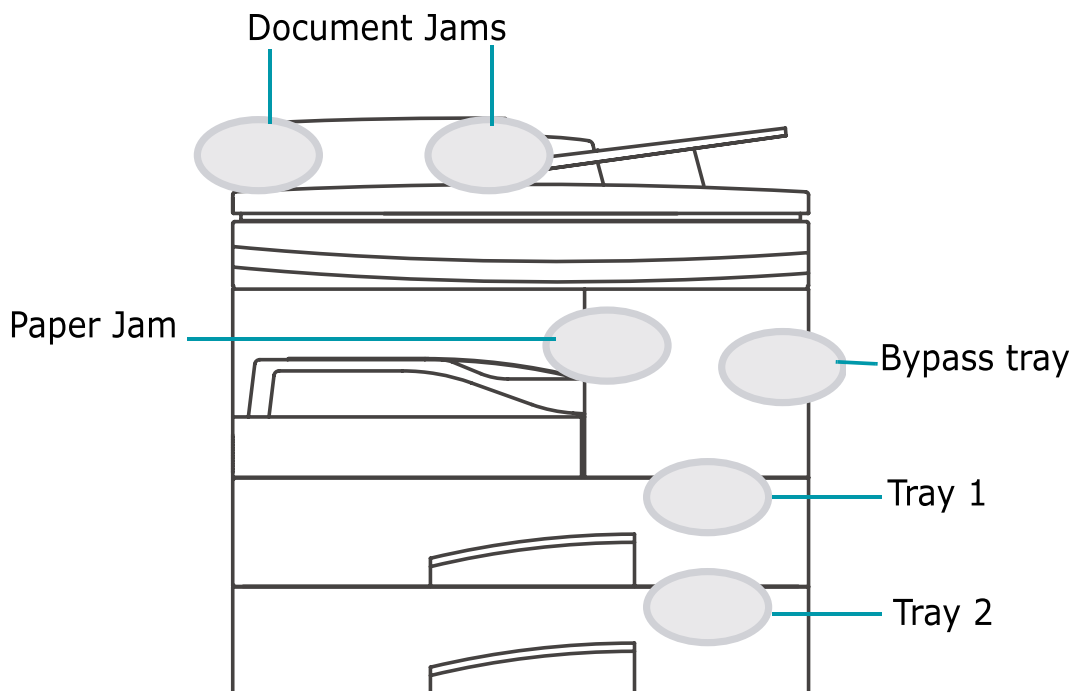
If you don't see the paper, open the covers.

Do not use a tweezers, pincers or other metal tools when clearing a paper jam.

This could damage the internal mechanism causing print quality problems or possibly electrical shock.

Fault Clearance

When a fault occurs, check the Status Map on the Control Panel. A green blanking LED identifies the problem area:

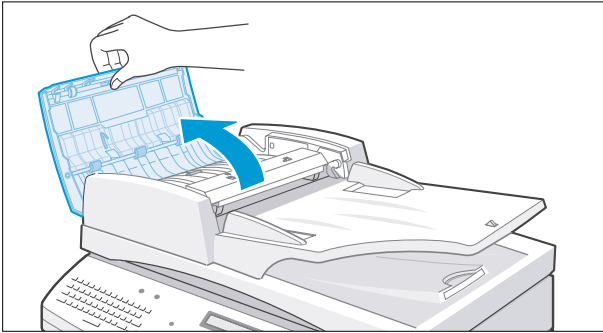


6.2.1 Clearing Document Jams

If a document jams while it is feeding through the DADF (Duplex Automatic Document Feeder), "DOCUMENT JAM" appears on the display.

6.2.1.1 DADF Input Misfeed

- 1) Open the DADF top cover.



- 3) Close the DADF top cover. Then place the documents back into the DADF.

NOTE : To prevent document jams, use the document scanner glass for thick, thin or mixed documents.

- 2) Pull the document gently to the right and out of the DADF.

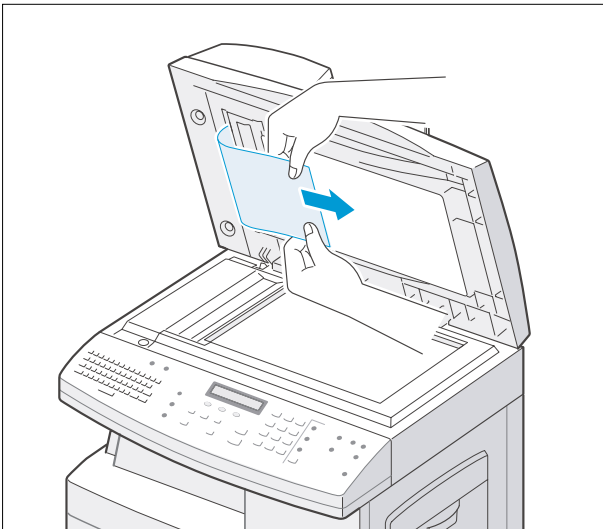


6.2.1.2 DADF Exit Misfeed

- 1) Remove the remaining documents from the DADF.
- 2) Open the document input tray upward and Pull the document gently out of the DADF.
- 3) Close the document input tray. Then place the documents back into the DADF.

6.2.1.3 DADF Roller Misfeed

- 1) Open the document cover.
- 2) Seize the misfed document, and remove the document from the DADF or the feed area by carefully pulling it towards the right using both hands.
- 3) Close the document cover. Then place the documents back into the DADF.



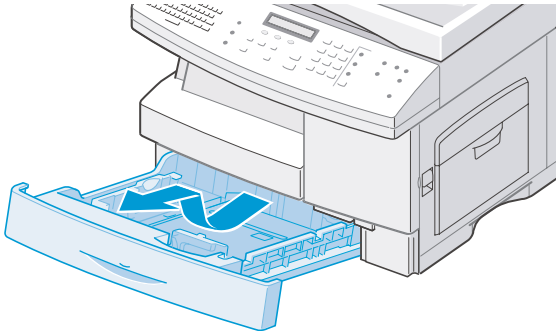
6.2.2 Paper Jams

If paper jams occur, "Paper Jam" appears on the display. Follow the steps below to clear the jam. To avoid tearing the paper, pull the jammed paper out gently and slowly.

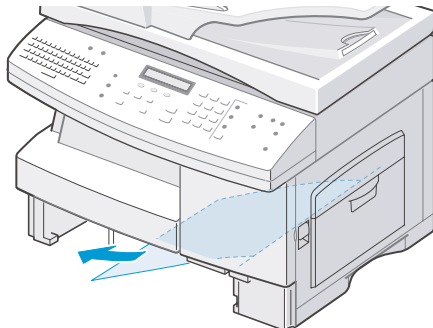
6.2.3 Paper Feed Area

If the paper jams in the feed area, "Paper Jam0" appears on the display.

- 1) Pull out the paper Tray to the fully open position. Lift the front part of the Tray slightly up to release the Tray from the machine.



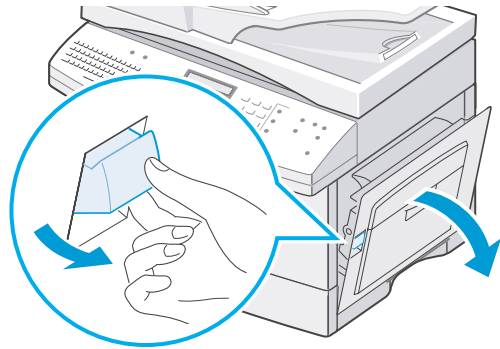
- 2) Remove the jammed paper by gently pulling it straight out.



Once you remove the jammed paper here, open the side cover and then close it to clear the "Paper Jam0" message on the display.

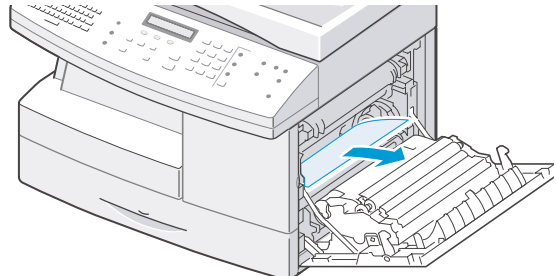
If there is any resistance, and the paper does not move immediately when you pull, stop pulling. Then continue to step3

- 3) Pull the release lever to open the side cover.

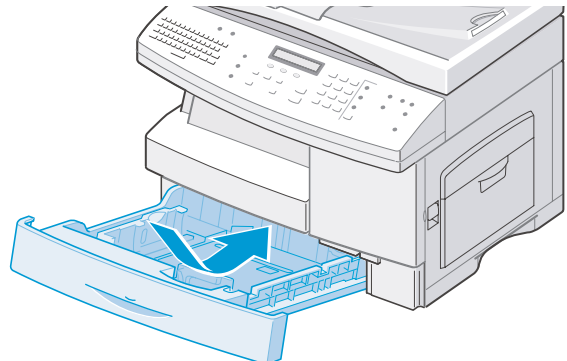


NOTE: Do not touch the shiny drum cartridge surface. Scratches or smudges will result in poor copy quality.

- 4) Carefully remove the misfed paper in the direction shown.



- 5) Close the cover and insert the paper Tray. Lift the front edge of the tray to engage the tray sliders and fully insert the paper tray.

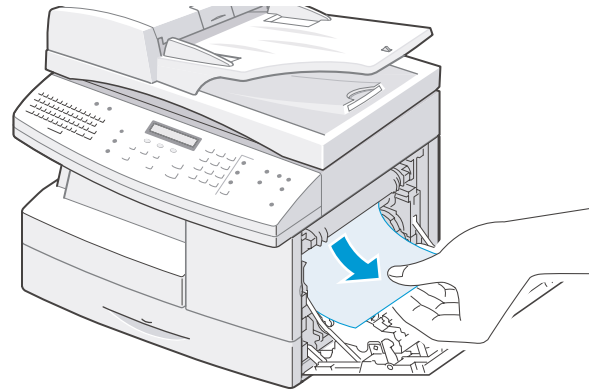
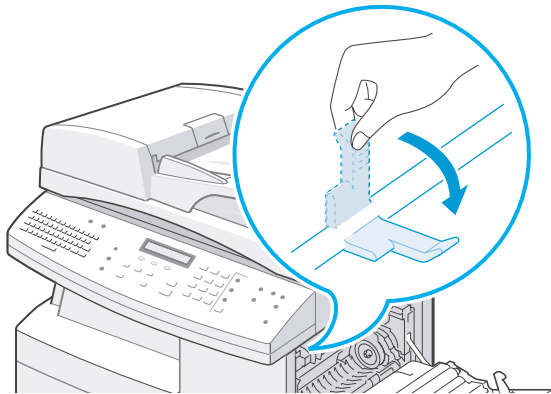


6.2.4 Fuser Area

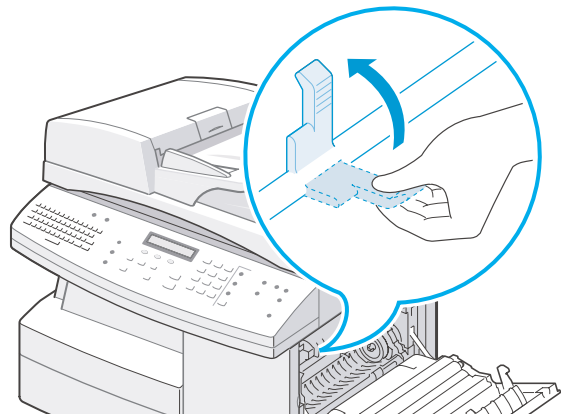
If the paper jams in the fuser area, "Paper Jam 1" appears on the display:

NOTE: The fuser area is hot. Take care when removing paper from the machine.

- 1) Lift the release lever to open the side cover.
- 2) Pull down on the fuser lever as shown below.
This will release pressure on the paper. If paper is not seen in this area, skip to the Exit Area.
- 3) Remove the jammed paper, in the direction shown.



- 4) Push the fuser lever up, and then close the side cover.



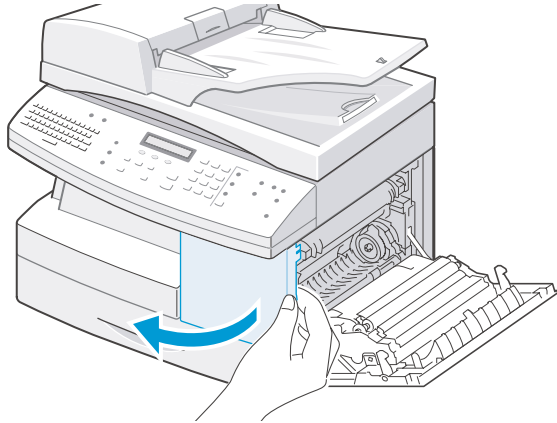
NOTE: Do not pull paper up through the fusing unit.
Unfused toner may adhere to the area, resulting in smudged copies.

6.2.5 Paper Exit Area

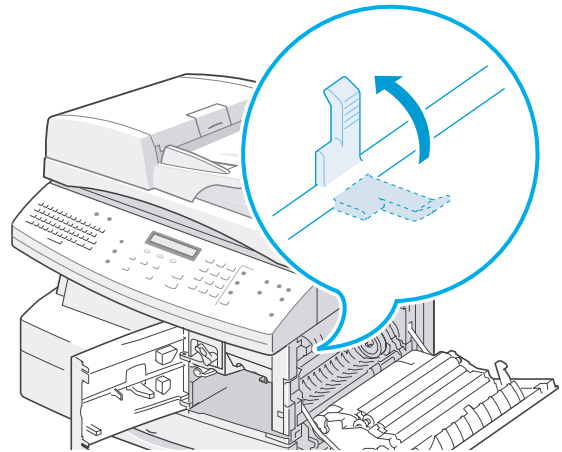
If the paper jams in the exit area, "Paper Jam 2" appears on the display.

1) Press the release lever to open the side cover.

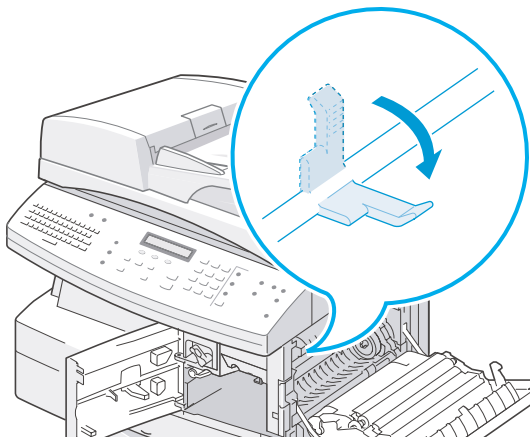
2) Open the front cover.



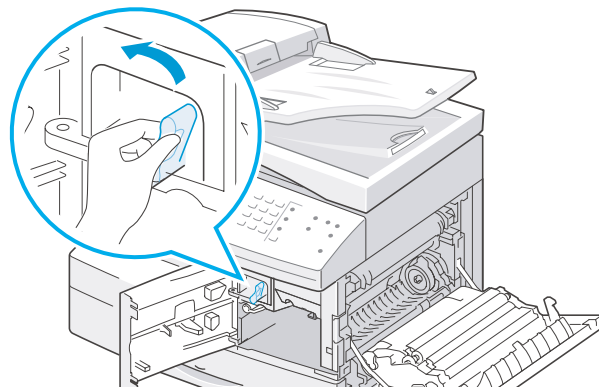
5) Push the fuser lever up.



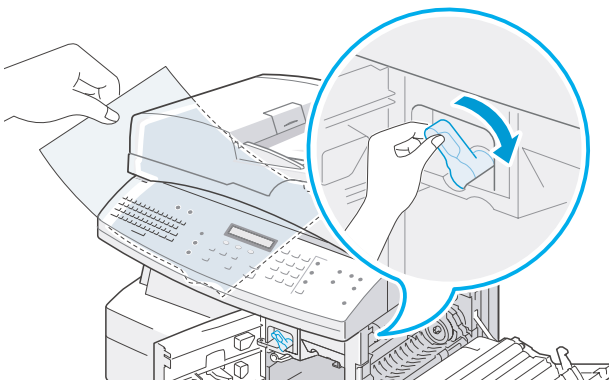
3) Pull down on the fuser lever. This will release pressure on the paper.



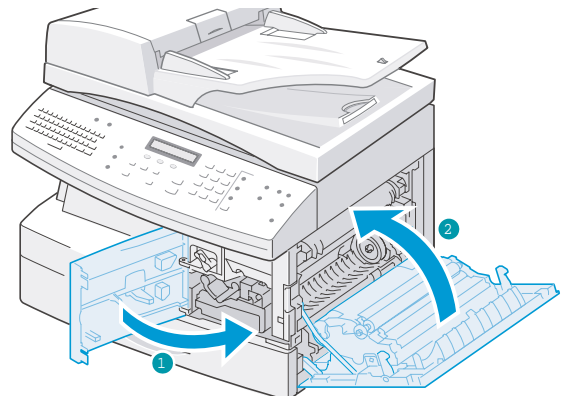
6) Turn the Jam Remove Lever back to the original position.



4) Turn the Jam Remove Lever in the direction of the arrow to move the paper to the exit area, then gently pull the paper out through the exit area.



7) Close the front cover (1) and the side cover (2).



6.2.6 Duplex Jam

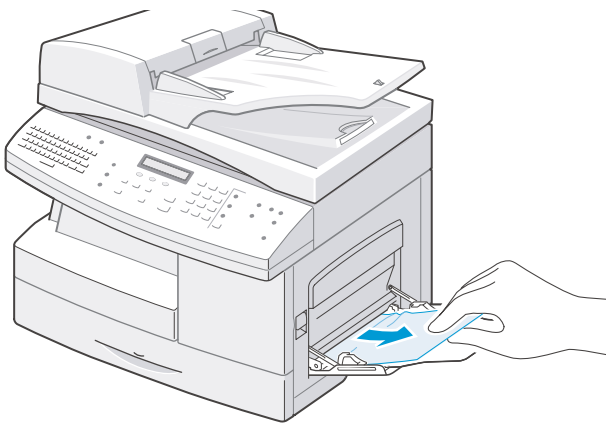
If paper jam occurs in the duplex mechanism, "Duplex Jam" appears on the display.

- 1) Press the release lever to open the side cover.
- 2) Remove the jammed paper. Then close the side cover

6.2.7 Bypass Tray Jam

"Bypass Jam" appears on the display when you try to print using the Bypass Tray and the machine does not detect paper due to no paper or improper paper loading.

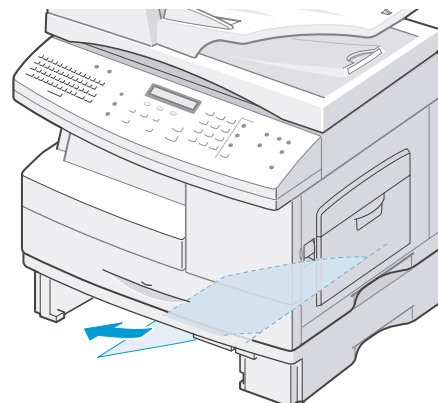
"Bypass Jam" also may occur when the paper is not properly fed into the machine through the Bypass Tray. In that case, pull the paper out of the machine.



6.2.8 Optional Tray2 Jam

If paper is jammed in the optional tray2, 'Jam0 In Tray2' appears on the display.

- 1) Pull the paper Tray to open. After you pull it out completely, lift the front part of the Tray slightly up to release the Tray from the machine
- 2) Remove the paper in the direction shown. To avoid the paper torn, pull it out gently and slowly.



6.3 User Mode

The table below shows all of the possible user settings. Full details can be found in the User Guide.

Function	-- ▶	1'st LCD	2'st LCD	Default
1.Paper Setting	1	Fax Paper Tray	[Tray1]	[Tray1]
			[Tray2]	
			[All]	
	2	Paper Type	[Plain Paper/ Bond/ Transparency/ Card Stock /Labels/Preprinted/ Colored/envelope]	[Plain Paper]
	3	Paper Size	[Tray Paper] [MP Tray Paper]	LTR LTR
2.Machine Setup	1	Machine ID	Fax: ID:	
	2	Date & Time		
	3	Clock Mode	[12, 24 hours]	12hours
	4	Language	[English/FRANCAIS/Deutsch/Italia no/Espa ol/Portugu s/Nederlands/Dansk/Svenska/suomi /Norsk]	English
	5	Localization	[Inch, MM]	Inch
	6	Power save	[On] [Off]	5min
	7	CCD Power Save	[1,4,8,12]	4Hour
	8	USB Mode	[Fast, Slow]	Fast
	9	Ignore Toner Empty	[On, Off]	off
	10	Time out	[Off, 15, 30, 60, 180]	[30]
3.Copy Features	1	Change Default	[Darkness]	[Normal]
			[Original Type]	[Text]
			[Reduce/Enlarge]	[Original(100%)]
	2	Margin Shift	[Off]	[Off]
			[Auto Center]	
			[Left Margin]	
			[Right Margin]	
			[Top Margin]	
			[Bottom Margin]	
	3	Book Copy	[Off]	[Off]
			[Left Page]	
			[Right Page]	
	4	Auto Suppress	[Both Pages]	
			[Off, On]	[Off]
			[Off]	[Off]
	5	Covers	[Front]	[Tray 1]
			[Back]	[Tray 1]
			[Front&Back]	[Tray 1]
	6	Transparencies	[Off]	[Off]
			[MP Tray]	[Off]

Function	-- ►	1'st LCD	2'st LCD	Default
4.Fax Setup ◀ Default-Change ▶	1	Default-Change	[Darkness] [Resolution]	[Normal] [Standard]
	2	Receive Mode	[Fax, Tel, Ans/Fax]	FAX
	3	Ring to Answer	[1~7]	1
	4	Redial Term	[1~15minutes]	3minutes
	5	Redials	[0~13times]	7times
	6	MSG Confirm	[On, Off, On-Err]	On-Error
	7	Auto Report	[On, Off]	On
	8	Auto Reduction	[On, Off]	On
	9	Discard Size	[00~30mm]	20mm
	10	Prefix Dial	FAX: xxxxx (5 digits)	
	11	Receive Start Code		
	12	ECM Mode	[On, Off]	On
5.Fax Feature ◀ Delay Fax ▶	1	Delay Fax		
	2	Priority Fax		
	3	Polling	[Tx Poll] [Delay Rx Poll]	
	4	Broadcasting		
	5	Batch Tx		
	6	Toll Save	[On] [Off]	Off
	7	Junk Fax Setup	[On] [Off]	off
	8	Secure Receive	[Off] [On] [Print]	off
	9	Stamp RCV Name	[On, Off]	Off
	10	Fax Duplex	[Off, Long Edge, Short Edge]	
6.Reports ◀ Fax Phone Book ▶	1	Fax Phone Book		
	2	Sent Report		
	3	RCV Report		
	4	System Data		
	5	Scheduled Jobs		
	6	MSG Confirm		
	7	Email Tx Report		
	8	Junk Fax List		
	9	Billing/Counters		
	10	Connect Page		
	11	User Auth List		
	12	Netscan Journal		
	13	Print All Reports		
7.Sound/Volume ◀ Speaker ▶	1	Speaker	[On, Off, Com]	Com
	2	Ringer	[Off, Low,Med,High]	Med
	3	Key Sound	[On, Off]	Off
	4	Alarm Sound	[On, Off]	On

Function	--▶	1'st LCD	2'st LCD	Default
8.Mail Box ◀ Print ▶	1	Print		
	2	Store		
	3	Delete		
	4	Poll From		
	5	Send		
9.Email Features ◀ Group Mail ▶	1	Email Features	◀ Local Address Book ▶	
			◀ Print Address Book ▶	
10.Sys. Admin Tools ◀ Passcode Protect ▶	1	Passcode Protect?	[Off]	Off
			[On]	
	2	Department Codes	◀ Set ▶	
			◀ Print ▶	
			◀ Management ▶	
	3	Auxiliary Access	[Off]	Off
			[On]	
	4	Network Setup	◀ Reset NIC ▶	
			◀ Config Network ▶	
			◀ Netware ▶	
			◀ Factory Default ▶	
	5	Email Setup	◀ SMTP Server Setup ▶	
			◀ Auto Send to Self ▶	
			◀ Guest User Access ▶	
			◀ Default From ▶	[On]
			◀ Default Subject ▶	[Disable]
			◀ LDAP Server Setup ▶	[On]
			◀ Email Body Text ▶	[Off]
			◀ Default Change ▶	
			◀ File Format Prompt ▶	
	6	Enter Passcode:		
	7	Clear Memory	[System Data]	
			[Fax TX History]	
			[Fax RX History]	
			[Fax Phone Book]	
			[Email Address Book]	
			[Email TX History]	
			[Netscan Journal]	
			◀ Billing Counters ▶	
	8	Maintenance	[Serial Number]	
			[Adjust Shading]	
			[Clean Drum]	
			[New Drum]	
			[Notify Toner Low]	
	9	Mailbox Setup	[Create]	
			[Delete]	
	10	Fax/Email Forward	Setup Forward	
	11	Netscan Timeout	Timeout Period	

6.4 Tech Mode

In service mode (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.

To enter the Tech mode, press MENU, #, 1, 9, 3, 4 in sequence, and the LCD briefly displays 'T', the machine has entered service (tech) mode.

While in Tech mode, the machine still performs all normal operations.

To return to normal user mode, press MENU, #, 1, 9, 3, 4 in sequence again, or turn the power off, then on by unplugging and plugging the power cord.

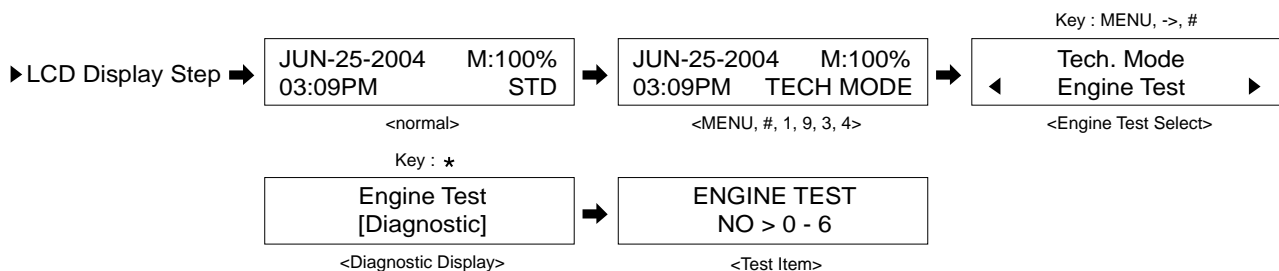
Options changed while in service mode do not remain changed unless you clear the machine's memory.

6.4.1 Engine Test Mode

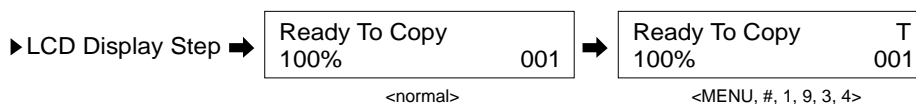
The Engine Tests Mode supplies useful functions to check conducting condition of engine. It tests the conducting condition of each device and displays the result of the test at the LCD. It is classified in 7 items(0~6), and the functions of items are as bellows.

6.4.1.1 Test No

<In Fax mode>



<In Copy mode>



<To Select Engine Test>

- [0] : Motor diagnostic
- [1] : LSU diagnostic
- [2] : Sensor(Actuator)diagonostic
- [3] : SCF diagnostic
- [4] : CRU diagnostic
- [5] : Circuit test for Xerographic processing
- [6] : Auto test

6.4.1.2 Test map

Test No	Test Items (Description)	Control Code			
		[1]		[2]	
[0]	ALL MOTOR TEST	ON	Start the Developer_Motor & Fuser_Motor	OFF	Stop the Developer_Motor & Fuser_Motor
	FUSER MOTOR TEST (STEPPER)	ON	Start the Fuser_Motor only.	OFF	Stop the Fuser_Motor
	Deve. MOTOR TEST (BLDC)	ON	Start the Developer_Motor only.	OFF	Stop the Developer_Motor.
	FUSER MTR DIR TEST	FWD	Start the Fuser_Motor in the forward direction	RVS	Start the Fuser_Motor in the reverse direction
	ALL MOTOR STOP	STOP	Stop the Developer_Motor & Fuser_Motor.	NEXT	Go to next test item (Go to FCF SOLENOID TEST).
	FCF (1st Tray) SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the First Cassette Feeder (FCF). - Automatically de-energized after 200ms.	OFF	De-energize (Turn off) the Solenoid of the FCF.
	MPF (MP Tray) SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the Multi-Purpose Feeder (MPF). - Automatically de-energized after 200ms.	OFF	De-energize (Turn Off) the Solenoid of the MPF
	PTL TEST	ON	Turns on the Pre-Transfer Lamp (PTL)	OFF	Turns off the PTL.
	FAN TEST	ON	Start the FAN motors (Cooler on the Rear side and LSU)	OFF	Stop the FAN motors.
	FUSER CONTROL TEST	ON	Turns on the Fuser Heat lamp. - only when the current fuser temp. is lower than the standby fuser temp.	OFF	Turns off the Heating lamp of Fuser Unit.
	FUSER TEMP CHECK	CHECK	Display FUSER ADC VALUE	NEXT	Go to next test item (Go to ALL MOTOR TEST)
[1]	LSU MOTOR TEST	ON	Start the polygon mirror motor in the LSU.	OFF	Stop the polygon mirror motor in the LSU.
	LASER DIODE TEST	ON	Turns on LASER diode in the LSU.	OFF	Turns off LASER diode in the LSU.
	LSU FAN TEST	ON	Turns LSU Fan On.	OFF	Turns LSU Fan Off.
	LSU READY TEST	CHECK	Check the time for the LSU motor to come to speed. The time will be displayed. This includes 500ms for the speed to stabilize (must be less than 10sec). The Motor will stop automatically.	NEXT	Go to next test (go to LSU HSYNC TEST)
	LSU HSYNC TEST	CHECK	Check the time for LSU HSYNC (Horizontal Synch. Signal) to be detected. The time will be displayed. (must be less than 10sec). The Motor will stop automatically. Monitor the status of the Actuators (Sensor). - '1':Active, '0':Inactive	NEXT	Go to the next test (go to LSU MOTOR TEST)
[2]	SENSOR TEST	CHECK	Monitor the status of Actuator(Sensor) with '1' or '0' . - '1':Active, '0':Inactive (Legend) CV / SIDE COVER SENSOR FD / FEED SENSOR EX / EXIT SENSOR OB / OUT BIN SENSOR FE / FC EMPTY SENSOR ME / MP EMPTY SENSOR	NEXT	Go to the top level of Engine test mode.
[3]	SCF MOTOR TEST	ON	Start the SCF Motor.	OFF	Stop the SCF Motor.
	SCF SOLENOID TEST	ON	Energize (Turn On) the Solenoid of the 2nd Cassette Feeder (SCF). - Automatically de-energized after 300ms.	OFF	De-energize (Turn Off) the Solenoid of the SCF
	SCF EMP/INST CHECK	CHECK	Display the status of the SCF (SCF Installed or not installed, Paper Empty)	NEXT	Go to the next test (go to SCF MOTOR TEST)
[4]	OPC FUSE STATE	CHECK	Check that there was a New OPC during the previous warm-up time.	NEXT	Go to the next test (go to OPC FUSE CHECK)
	OPC FUSE CHECK	CHECK	Display the current state of fuse in the OPC.	NEXT	Go to the next test (go to TONER STATE)
	TONER STATE	CHECK	Display Toner State - This test does not check the current toner state. It displays the stored value in SDRAM at the previous Open/Close of the Side-Cover or Power-on. - Opening/closing the side-cover or POPO, will update the memory with the current toner state.	NEXT	Go to the next test (go to TONER LOW CHECK)
	TONER LOW CHECK	CHECK	Check current toner state.	NEXT	Go to the next test (go to PAGE COUNTER INC)
	PAGE COUNTER INC	CHECK	Increase PAGE COUNTER by 1 count	NEXT	Go to the next test (go to AIR TEMP CHECK)
	AIR TEMP CHECK	CHECK	Read and display the temperature of the current working environment. - Display the ADC value	NEXT	Go to the next test (go to OPC FUSE STATE)

		Control Code			
Test No	Test Items (Description)	[1]		[2]	
[5]	MHV SUPPLY 1350V	ON	Supply 1350V to the MHV	OFF	Disconnect voltage from MHV
	MHV ADC READ	CHECK	Read and display the MHV ADC (Analog-To-Digital Conversion) value.	NEXT	Go to the next test (go to DEV SUPPLY 450V)
	DEV SUPPLY 450V	ON	Supply 1450V to the DEV (Developer).	OFF	Disconnect voltage from DEV
	THV SUPPLY NEG VOLT	ON	Supply negative voltage to the THV	OFF	Disconnect negative voltage from THV
	THV SUPPLY 1301V	ON	Supply 1300V to the THV	OFF	Disconnect voltage from THV
	THV ADC READ	CHECK	Read and display the THV ADC value.	NEXT	Go to the next test (go to MHV SUPPLY 1350V)
[6]	Auto TEST	NEXT : RIGHT KEY		Automatically start to test with 2 sec intervals.	
		EXIT : STOP KEY		Go to the top level of Engine test mode.	
		Automatic Test Sequence		1	ALL MOTOR CONTROL
				2	FUSER MOTOR CONTROL
				3	DEV MOTOR CONTROL
				4	DUPLEX CONTROL
				5	FCF PICKUP CONTROL
				6	M P PICKUP CONTROL
				7	PTL CONTROL
				8	FAN CONTROL
				9	FUSER CONTROL
				10	LSU MOTOR CONTROL
				11	LASER DIODE CONTROL
				12	SENSOR DETECT
				13	MHV CONTROL
				14	DEV CONTROL
				15	THV NEG CONTROL
				16	THV CONTROL
				17	MHV ADC READ
				18	THV ADC READ
				19	TEST END

6.4.1.3 Operation of Tech mode

Function	1'st LCD	2'st LCD	3'st LCD	4'st LCD	5'st LCD	6'st LCD	Default
Tech Mode ◀ Data Setup ▶	1 Data Setup	[Send Level]	Send Level	[9~15]			-12
		[Modem Speed]	Modem Speed	[33,628.8,14.4,12,96,48]			33.6
		[Dial Mode]	Dial Mode	[Tone, Pulse]			
		[Error Rate]	Error Rate	[5%, 10%]			10%
		[Notify Toner]	Notify Toner	[Customer No.]			
				[Customer Name]			
				[Service Number]			
				[Serial Number]			
		[Clear All Mem.]	Clear All Mem.				
		[Clear Count]	Clear Count	[Total Page Count]			
				[CRU Print CNT]			
				[FLT Scan Count]			
				[ADF Scan Count]			
		[Flash Upgrade]	Flash Upgrade	[Used Toner CNT]			
				[Local]			
2	Machine Test	[Switch Test]		[Remote]			
		[Modem Test]					
		[DRAM Test]					
		[ROM Test]					
		[Pattern Test]					
		[Shading Test]					
		[Diagnostic]					
			Engine Test	NO > 0 - 6	ALL MOTOR TEST	1-ON 2-OFF	
					FCF SOLENOID TEST	1-ON 2-OFF	
					M F SOLENOID TEST	1-ON 2-OFF	
					PTL TEST	1-ON 2-OFF	
					FAN TEST	1-ON 2-OFF	
					FUSER CONTROL TEST	1-ON 2-OFF	
					FUSER TEMP TEST	1-CHECK 2-NEXT	
					LSU MOTOR TEST	1-ON 2-OFF	
3	Engine Test				LASER DIODE TEST	1-ON 2-OFF	
					LSU READY TEST	1-CHECK 2-NEXT	
					LSU HSYNC TEST	1-CHECK 2-NEXT	
					SENSOR TEST	1-CHECK 2-NEXT	
					SCF MOTOR TEST	1-ON 2-OFF	
					SCF SOLENOID TEST	1-ON 2-OFF	
					SCF EMP/INST TEST	1-CHECK 2-NEXT	
					OPC FUSE STATE	1-CHECK 2-NEXT	
					OPC FUSE CHECK	1-CHECK 2-NEXT	
					TONER STATE	1-CHECK 2-NEXT	
					TONER LOW CHECK	1-CHECK 2-NEXT	
					PAGE COUNTER INC	1-CHECK 2-NEXT	
					AIR TEMP CHECK	1-CHECK 2-NEXT	
					MHV SUPPLY 1350V	1-ON 2-OFF	
					MHV ADC READ	1-CHECK 2-NEXT	
4	DADF Test				DEV SUPPLY 450V	1-ON 2-OFF	
					THV SUPPLY NEG VOLT	1-ON 2-OFF	
					THV SUPPLY 1301V	1-ON 2-OFF	
					THV ADC READ	1-CHECK 2-NEXT	
					TEST START	NEXT : RIGHT KEY	
5	Report						

6.4.2 Data Setup

SEND LEVEL

You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.

Caution : The Send Fax Level is set to the best condition during manufacture. Never change settings arbitrarily.

DIAL MODE

This function can choose the dialing method.

*Default : Dial (Dial/Pulse)

MODEM SPEED

You can set the maximum modem speed.

When the fax establishes communication with a remote set the value of the maximum modem speed is checked for both transmitter and receiver. The lowest value is used. It is best set at 33.6Kbps, the default setting.

ERROR RATE

When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps.

This ensures that the error rate remains below the set value.

You can select the rate between 5% and 10%.

CLEAR ALL MEMORY

The function resets the system to factory default settings.

This function is used to reset the system to the initial value when the product is functioning abnormally. All the values are returned to the default values, and all the information which was set by the user will be erased.

< Method >

1. Select the [MEMORY CLEAR] in TECH MODE.
2. Push the ENTER button.
3. Select your country. (There are four country groups. Refer to the table below.)
4. Push the ENTER button then it will clear all memory.

NOTICE : Always perform a memory clear after replacing the main board, otherwise the system may not operate properly.

Country Group	USA/Canada	UK	Russia	Southafrica
Country	USA/Canada Mexico Brazil	UK Germany France Italy Spain Austria Netherlands Belgium Portugal Sweden Norway Denmark Finland Switzerland Greece Ireland Turkey	Russia India Oman Poland Bangladesh Kuwait Moroco Algeria Pakistan UAE Bahrain Srilanka Saudi Arabia Chile Peru Argentina Hungary Romania Bulgaria Czech	South Africa

6.4.2.1 Clear Counters

The following counters can only be cleared in TECH MODE. They are accessed through the Data Setup menu.

Total page Count : XXXXX
 FLT Scan CNT : XXXXX
 ADF SCAN CNT : XXXXX
 Used Drum CNT : XXXXX
 Used Toner CNT : XXXXX

6.4.2.2 Flash Upgrade

FLASH memory is upgraded in the same way as Firmware. See Page 6-21.

6.4.3 Machine Test

SWITCH TEST

Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

MODEM TEST

Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem, amplifier and speaker. If no transmission signal sound is heard, it means the modem part of the main board, amplifier, speaker or speaker harness is faulty.

DRAM TEST

Use this feature to test the machine's DRAM. The result appears in the LCD display.
 If all memory is working normally, the LCD shows << O K >>

ROM TEST

Use this feature to test the machine's ROM. The result and the software version appear in the LCD display.

- FLASH VER : 1.00 V
- ENGINE VER :1.00V

PATTERN TEST

Using this pattern printout you can check that the printer mechanism is functioning properly.
 This function is for factory manufacturing use only.

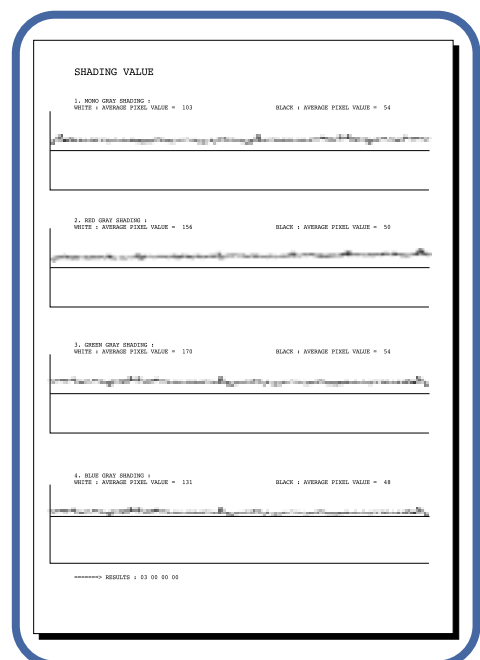
SHADING TEST

The function is used to set the optimum scan quality determined by the specific characteristics of the CCD (Charge Coupled Device). If copy image quality is poor perform this function to check the condition of the CCD unit.

< Method >

1. Select the [Shading Test] in TECH MODE (Menu, #, 1934).
2. Push the ENTER button and an image will be scanned.
3. After scanning the CCD SHADING PROFILE will be print out.
4. If the printed image is different to the sample image shown the CCD is defective.

NOTICE : When you test the CCD, make sure that the cover is closed.



6.4.4 DADF Test

Test Item[DADF Diagnostic]

- Clutch Test: Pick up clutch, Regi clutch, Duplex clutch
- Motor Test: Scan Motor, Duplex CW, Duplex CCW

6.4.5 Report

6.4.5.1 Protocol Dump List

This list shows the sequence of the CCITT group 3 T.30 protocol during the most recent sending or receiving operation. Use this list to check for send and receive errors. If a communication error occurs while the machine is in TECH mode, the protocol list will print automatically.

[illegible]

6.4.5.2 System Data List

This list provides a list of the user system data settings and tech mode settings.

System Data List		JUN-25-2004 06:35 PM PST	
Options	Item	Status	
	HW-IOIO device		
	Machine ID		10 KIM
	Serial Number		0280-040001808
	Fax Number		0000110007800
Options	Item	Status	
Tray 0 Sense	[On/Off]	Off	
Search Via	[On/Off]	Off	
Tray 1 Size	[Letter/A4...]	A4	
Tray 2 Size	[Letter/A4...]	A4	
MP Tray Size	[Letter/A4...]	A4	
Power Save	[1/2/3/4/5/Off]	5 Min	
Volume	[1/2/3/4/5/Off]	3 Sec	
Shamp R.E. Name	[On/Off]	Off	
Search Sound	[On/Off]	On	
Key Sound	[On/Off]	Off	
Speaker Control	[On/Off/Comp.]	Comp	
Language	[Eng/Lab/Fran/His...]	Eng/Lab	
LOCK/LEADIN	[3ch/900]	900	
USB Mode	[Fast/Hi spd]	Fast	
Clock Mode	[12 Hour/24 Hour]	12 Hour	
Power Save	[On/Off]	Off	
Scanward Size	[8-30 mm]	20 mm	
Lighter/Tracker	[1-4]	3	
Restricition	[FullSearch/Visio...]	FullSearch	
Remote Mode	[Fax/Mod...]	Mod	
WFO Confuse	[On/Off/No-Err]	On	
Auto Reduction	[On/Off]	On	
Profile (St) No.	[Fax Number]	[]	
Auto Report	[On/Off]	On	
PCM Mode	[On/Off]	On	
Redial	[0-3]	2	
Ring To Answer	[1-4]	1	
Redial Time	[1-15]	3 Min	
Ringup	[Off/Long/Mod/High]	Long	
Auto Fax Setup	[On/Off]	Off	
INVOICE MODELINE	[On/Off]	Off	
Fax Paper Tray	[Tray 1/Tray 2 & Tray3]	RT1	
Bolify Toner Low		Off	
Lowest Mode		Off	
Set To Level	[0-15]	-12 dB	
Dial Mode	[Tone/Pulse]	Tone	
Reduce Speed	[11.6/12.6...]/Stop	11.6 Stop	
Reduce Rate	[0/1/2/3]	1/4	
Firmware/Engine			
Simulation Version			
	1	0.94	4.1.00
	1	PC24 S.11	04-08-2004
		PC24 S.12	06-13-2004
		PC1 1.11	02-20-2004
	1	1.02	
SWP Version			
	1	3.6.1	
Tray0 Version			
	1	3.6.1	
Network R/W Version (20)			
	1	VL-50	000000 150-0-0-150

6.4.5.3 Billing / Counters List

This list provides the usage data (page count) of Drum Cartridge, Toner Cartridge, the page count of machine, and DADF / Platen scan page count.
(See the chapter 4.2.8.3)

Billing/Counters List		JAN-08-2004 01:39 AM THU	
		SCX-6320F	
		Machine ID	:
		Serial Number	: PR-HV51.....
		Fax Number	:
<hr/>			
Total impressions	:	1762	
Total impression Count	:	1762	
Drum impression Count	:	1762	
DADF Scan Page Count	:	1342	
Platen Scan Page Count	:	27	
Replaced Toner Count	:	1	
Replaced Drum Count	:	0	
Equivalent Drum Revolution Rate (Projected Page Counts)	:	126.10% (2237)	
CRUM Information			
Vendor	:	SAMSUNG(China)	[CHN]
Capacity	:	8K	
Product Date	:	2004.06	
Install Date	:	2004.01.04	
Serial	:	CRUM-04060934720	
Total Pages	:	1762(0)	
Toner Status	:	0	

6.5 Flash Upgrade

There are 2 methods to update the Flash Rom, Local and Remote.

(1) Local Machine

• RCP (Remote Control Panel) mode

This method is for Parallel Port or USB Port. Connect the PC and activate the RCP (Remote Control Panel) to upgrade the Firmware.

< Method >

How to Update Firmware using RCP

1. Connect PC and Printer with a Parallel Cable or a USB Cable.
2. Run the RCP utility and select Firmware Update.
3. Search for the Firmware file to be used to update the set using the Browse Icon.
4. Click the Update icon. The firmware file is transmitted to the Printer automatically and the printer is initialized when the download completes.
5. Click the Refresh icon and check that the updated version numbers are displayed.

• DOS Command mode

This method is ONLY for Parallel Port. Connect the PC to the set using a Parallel Cable and enter the DOS Command to upgrade the firmware.

< Method >

1. First of all you need the following files : down.bat, down_com.bin, fprt.exe, and Rom File: (file name for upgrade). Ensure you save ALL of these files in the same folder.
2. At the DOS prompt enter the correct command (as shown below) and push the enter key.
Then the upgrade will automatically take place..
3. There are two commands use the correct one depending on the condition of the set..
 - * When the product is in the idle condition
down "rom file"
 - * When the product is in Ready condition
(TECH MODE --> DATA SETUP --> FLASH UPGRADE --> LOCAL)
fprt "rom file"
4. Do not turn off the power during the upgrade process.

(2) Remote FAX

It is possible to use a set that already has the latest firmware to upgrade a remote set remotely using the telephone system.

< Method >

1. On the set that has the latest firmware set it to transmit the upgrade:-
(TECH MODE •DATA SETUP•••• FLASH UPGRADE•••• REMOTE)
2. Enter the telephone number of the set that needs to be upgraded.
(Several faxes can be upgrade at the same time. In this case, enter each fax number.)
3. When the enter button is pressed the set sends the firmware file by calling designated fax number.
(Around 10~15 minutes are needed to send the file.)

< Caution >

1. The Sending and Receiving fax machines MUST be the same model.
2. The sending fax must be set up in ECM mode and the Receiving fax memory must be 100%.
If not the function will not work.

6.5.1 NIC Card F/W Upgrade

There're two methods for upgrading NIC f/w. You can not do it by using Printer RCP.

A. SyncThru :

SyncThru

- >Menu
- >Maintenance
- >Upgrade Firmware
- >Select the machine you want to upgrade.
- > Fill file path and name in File name field.
- >Press Start.

Upgrading NIC F/W will take at least one minute.

B. SyncThru Web Service :

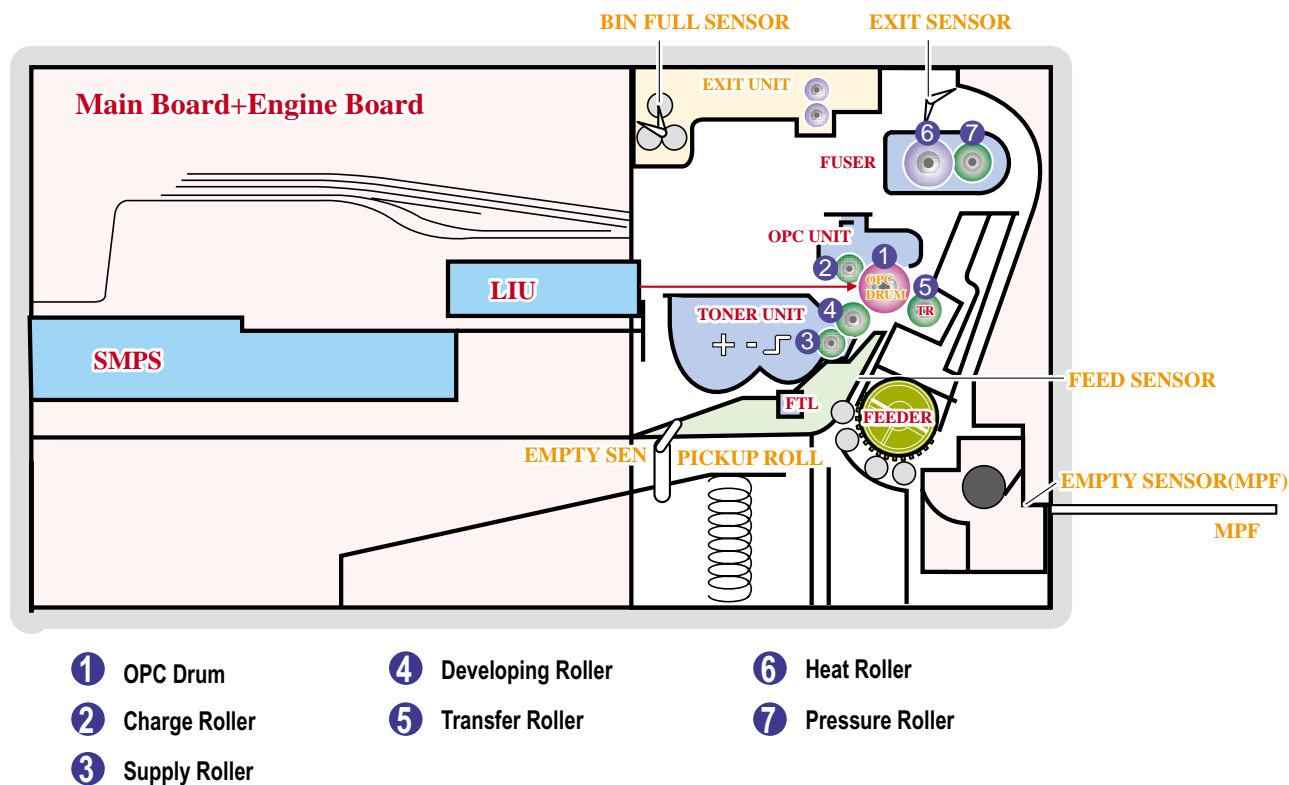
Open a browser(Internet explore)

- > type your machine ip address in address field.
- > Maintenance Tab
- > Firmware Upgrade
- > Fill file path and name in File name field.
- > Press "Upgrade" button

Upgrading NIC F/W will take at least one minute.

6.6 Abnormal Image Printing and Defective Roller

If a mark or other printing defect occurs at regular intervals down the page it may be caused by a damaged or contaminated roller. Measure the repetition interval and refer to the table below to identify the roller concerned.



No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	94.30mm	White spot, Block spot
2	Charge Roller	38.30mm	Black spot
3	Supply Roller	43.80mm	Horizontal density band
4	Develop Roller	54.30mm	Horizontal density band
5	Transfer Roller	56.60mm	Black side contamination/transfer fault
6	Heat Roller	83.60mm	Black spot and fuser ghost
7	Pressure Roller	91.00mm	Black side contamination

6.7 Machine Error Codes (Service codes)

6.7.1 Machine Error Message

Error Message	Description	Solution	
DOCUMENT JAM	The loaded document has jammed in the DADF	Clear the document jam.	DADF
DOOR OPEN	The side cover is not securely latched.	Close the cover until it locks into place.	Feeder
BYPASS JAM	The machine detected a mis-feed from the BYPASS Tray.	Open the side Cover and remove the jammed paper. Load paper in the bypass tray.	Feeder
DUPLEX JAM	The machine detected a duplex jam in the middle of 2-sided printing.	Remove the jammed paper	Feeder
Drum Warning	The drum cartridge is near the end of its life.	You should ensure a replacement cartridge is in stock.	
Function Full	The memory is full.	Either delete unnecessary documents, or retransmit after more memory becomes available. The transmission can also be split into more than one operation if it is a large job.	
PAPER JAMØ	Recording paper is jammed in the paper feeding area. (Recording paper is jammed in pick-up unit)	Press STOP and remove the jammed paper	Feeder
PAPER JAM1 Open/Close Door	The machine has detected a paper jam in fuser area. OPEN the side door and clear the jam. CLOSE the door to continue.	Remove the jammed paper	Feeder
PAPER JAM 2 Check Inside	The machine has detected a paper jam in paper exit area. OPEN the side door and clear the jam. CLOSE the door to continue.	Remove the jammed paper	Feeder
NO PAPER ADD PAPER	The recording paper has run out. The printer system stops.	Load the recording paper in the paper feeder.	Feeder
LSU ERROR	The Laser Scanning Unit did not reach the READY state within a defined time or a problem has occurred in the LSU.	Try Power Off-Power On. *Please test the LSU in engine test mode. *If the problem still persists, replace the LSU unit.	LSU
LOW HEAT ERROR	The Fuser temperature did not reach a certain level, or the thermister has become disconnected.	Try Power Off-Power On. *Check thermister contact point & heat roller. *If the problem still persists, replace fuser unit.	Fuser
OPEN HEAT ERROR	During operation the fuser temperature fails to rise correctly, the Thermister is not connected to the main board or contact points are loose or dirty.	*Check thermister contact point and cable connection. *Please test the fuser in engine test mode. *If the problem still persists, replace fuser unit.	Fuser

Error Message	Description	Solution	
OVER HEAT ERROR	The fuser temperature has risen too far. If the temperature of heat roller abnormally increases above the toner-fusing-temperature parts of the fuser may be thermally degraded.	The machine will automatically return to standby mode when it cools down to the normal operating temperature. * Check DC control signal from Main PBA to TRIAC and AC supply from SMPS to fuser. * Check the thermister on the fuser for contamination by toner debris or dust and clean the thermister surface. * Please test the fuser in engine test mode. * If the problem still persists, replace fuser unit.	Fuser
NO CARTRIDGE	The toner cartridge is not installed or the CRUM terminals in the cartridge are dirty or loose.	Install a toner cartridge. If already installed then check CRUM contact points. (Try uninstalling and re-installing the cartridge)	CRU
Invalid Cartridge	The toner cartridge is not for the Samsung machine.	Check that the toner cartridge is correct for this model.	CRU
DRUM WARNING	The drum cartridge is near the end of life, 18,000 print pages.	Ensure a replacement OPC Drum is in stock. Continue to use this drum until "REPLACE DRUM" appears	CRU
REPLACE DRUM	The drum cartridge has reached the end of its life, 20,000 print pages.	Replace the Drum Cartridge.	CRU
TONER EMPTY or REPLACE TONER	When the machine has encountered the Toner Empty.	Replace with a new Toner Cartridge.	CRU
TONER LOW	Toner is almost empty. Toner may be low Toner may be unevenly distributed.	Take out the toner cartridge and gently shake it. By doing this printing operations can be temporarily resumed.	CRU
Function Impossible	Means that these modes do not work together or are not supported in your current machine configuration.	In case of copying, try again without function combination .For Scan-To-Email, please check secured connection of the DIMM and QWERTY keyboard	Inform
DIMM not installed	If the MODEM chip is installed on the main PBA for SCX-6520FN but the DIMM for Fax memory is not installed then this message appears on the LCD.	Check the DIMM in the expansion memory slot. * Please test the RAM testing in engine test mode. * If the problem is in the DIMM, replace the DIMM.	Main PBA
NETWORK IP Conflict	Your MFP has been given the same IP address as another device on your network.	Correct the network settings.	NIC
No Paper	The paper in the paper Tray has run out.	Load the paper in the paper Tray.	
RX Tray Full	The output bin is full.	Remove the paper.	

6.7.2 Fax Error Message (Only for SCX-6320F)

Error Message	Description	Solution
COMM. ERROR	A problem with the facsimile communications has occurred. - Machine displays this when transmitting. - Machine displays this during fax handshaking step when receiving.	Try resending the fax.
GROUP NOT AVAILABLE	You have tried to select a group location where only a single location number can be used, such as when adding locations for a multi-dial operation.	Try again, check location for a group.
INCOMPATIBLE	Remote party did not have the requested feature, such as polling.	
LINE BUSY	The remote FAX didn't answer	Try again.
LINE ERROR	The machine has problem receiving data. Your unit cannot connect with the remote machine, or has lost contact because of a problem on the phone line.	Try again. If failure persists, wait an hour or so for the line to clear then try again.
MEMORY FULL	The memory has become full.	Either delete unnecessary documents, or retransmit after more memory becomes available, or split the transmission into more than one operation.
NO ANSWER	After completing the number of redials specified in the System data and the remote machine was not answered after all the redial attempts.	Try again. Make sure the remote machine is OK.
NO. NOT ASSIGNED	The speed dial location you tried to use has no number assigned to it.	Dial the number manually with the keypad, or assign the number.
POWER FAILURE	The power has been off and the backup power time limit has been exceeded.	Check backup battery
RETRY REDIAL?	The machine is waiting for the programmed interval to automatically redial.	You can press [START] to immediately redial, or [STOP] to cancel the redial operation.
Poll Code Err.	You have used an incorrect poll code.	Use the correct poll code.
Polling Error	The remote fax machine you want to poll is not ready to respond to your poll. Or, when setting up to poll another fax machine, you have used an incorrect poll code.	The remote operator should know in advance that you are polling and have the fax machine loaded with the original document. Enter the correct poll code.

6.7.3 Scan-To-Email Error Message (Network Option Only)

Error Message	Description	Solution
Not Assigned	Not Assigned. The Group Mail you tried to use has no email assigned to it.	Type the email manually with the QWERTY Keyboard/ Numeric key pad, or assign the email.
Send Error(SMTP)	Your unit cannot connect with the server, or has lost contact because of a problem on the network..	Try again. If failure persists, wait an hour or so for the network to clear.
Recipient Address Failure	There was a problem with the address that you sent the email to.	Specified recipient email address should be a valid email address.
Send Error(SMTP)	<p>Send Error (SMTP) can be due to any of the following:</p> <ul style="list-style-type: none"> • Error returned due to abrupt disconnection of SMTP server. SMTP_SERVER_DISCONNECTION • Error returned by NIC during SMTP encoding activity SMTP_ENCODER_FAILURE • Error returned by NIC due to memory failure during SMTP operation. SMTP_MEMORY_FAILURE • Miscellaneous error return by NIC during SMTP activities. SMTP_MISC_ERROR 	
Connection Failure	Any kind of communication or network failure during SMTP / ESMTP operations.	Check the Network connection.
Authentication Failure	Authentication failure is returned for Invalid ESMTP A/C or Password entered by the user.	Specify the correct login name and password.
Authentication Required	Authentication is disabled in MFP and the mail server requires it.	Enable the SMTP Server authentication.
SMTP Server CONN. Failure	SMTP server connection failure.	Check the Network connection.
Invalid Server Or Port No.	Wrong SMTP server or port no. is specified.	Specify the correct SMTP server and port.
SMTP DNSCONN. Failure	In case of DNS connection failure.	Specify the correct DNS.
SMTP DNS DomainError	In case of SMTP DNS domain error.	Specify the correct DNS domain.
Email Associated Cannot Delete	This error is displayed, when a user tries to delete an entry from the Address book which is associated with group mail Solution:	Try removing the group mail association and then remove this entry
Mail Too Large	This error is raised when the MFP is unable to split the mail and send it. E.g. MFP configured to mail size 1.0MB and the single scanned page size is larger than the specified email size (e.g. 1.0)	Try removing the group mail association and then remove this entry
Empty Address Book	Displayed when the Address book is empty while trying to get address from Address book.	You must enter addresses into the Address book before trying to use it.
Address Book Full	Display when the Address book is full when trying to add a new entry.	If address book is full then you must delete unused address before trying to add new addresses.

Error Message	Description	Solution
Group Empty	Displayed when a Group is empty, while trying to delete from the Group.	You can only delete entries from a group if entries exist.
Group Full	Displayed when a Group is full with maximum entries while trying to add an entry to the group.	If group is full, remove the unused entries in the group.
Entry Already Exists	Displayed when trying to enter an entry which is already existing in the Address book.	Enter email address which do not exist in the address book.
Invalid Email ID	<p>This message will be displayed when we enter an email id:-</p> <ul style="list-style-type: none"> • with space in between, email addresses • Starting with special characters e.g.: + - _ @ • Email Id with more than one @ 	Enter valid email address.
Enter Again	This message will be displayed when you try to enter an invalid GROUP number.	Enter a valid group number.
Configured Already	This message will be displayed when the user tries to configure an already configured Group	Configure a group which is already not configured.
Invalid Login	Display when the user doesn't enter proper login name & corresponding password.	Enter valid login name.
Scanner Locked	The scan module is locked.	Unlock the scanner press Stop/ Clear.
Toner Empty	The toner cartridge has run out. The machine stops.	Replace the old cartridge with new one.
Replace Toner		
Toner Low	The toner is almost empty.	Take out the toner cartridge and gently shake it. By doing this, you can temporarily reestablish printing operations.

7. Troubleshooting

7.1 Scanner

7.1.1 COPY

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
White copy	<ul style="list-style-type: none"> • Check the Scan-Cover open. 	<ul style="list-style-type: none"> • Room light can transit a thin original.
	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
Black copy	<ul style="list-style-type: none"> • Check the CCD problem in Main PBA. 	<ul style="list-style-type: none"> • Check the CCD harness contact.
	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
Defective image quality	<ul style="list-style-type: none"> • Check shading profile. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode.
	<ul style="list-style-type: none"> • Check the gap between original and scanner. glass 	<ul style="list-style-type: none"> • The gap above 0.5mm can cause a blurred image.
	<ul style="list-style-type: none"> • Check printing quality. 	<ul style="list-style-type: none"> • See "Print" troubleshooting.
Abnormal noise	<ul style="list-style-type: none"> • Check the Scanner Motor and any mechanical disturbance. 	<ul style="list-style-type: none"> • Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CCD carrying part.
	<ul style="list-style-type: none"> • Check the Motor Driver in Driver PBA. 	<ul style="list-style-type: none"> • If any driver is defective, replace it.

7.1.2 PC-Scan

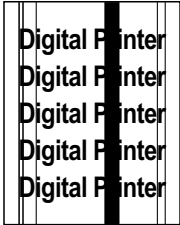
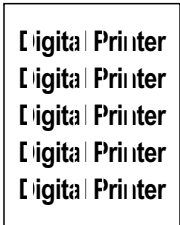
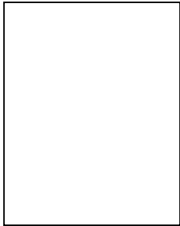

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
Scanning Error	<ul style="list-style-type: none"> • Check the printer cable installed. 	<ul style="list-style-type: none"> • Check correct installation, and use standard IEEE1284 cable.
	<ul style="list-style-type: none"> • Check how TWAIN driver is installed. 	<ul style="list-style-type: none"> • Remove any other scanner driver. • Reboot after reinstallation of the TWAIN driver.
	<ul style="list-style-type: none"> • Check the printer port(Parallel). 	<ul style="list-style-type: none"> • Check the parallel-port-related items in the CMOS Setup. As a printer port, Select ECP among SPP(Normal), ECP, and EPP modes(increase print-ing speed)
	<ul style="list-style-type: none"> • Check harness contact. 	<ul style="list-style-type: none"> • Check CN12 contact in Main PBA
	<ul style="list-style-type: none"> • Check the IEEE1284 signal level. 	<ul style="list-style-type: none"> • If any signal level is defective, replace Driver PBA. Main PBA = 0.8V to 2.4V TTL signal. • Otherwise, replace Main PBA.
	<ul style="list-style-type: none"> • Check the USB signal level. 	<ul style="list-style-type: none"> • If USB signal level is defective, replace Main PBA.
Defective image Quality	<ul style="list-style-type: none"> • Check shading profile. • Check the gap between original and scanner glass. 	<ul style="list-style-type: none"> • Remake shading profile in the tech mode. • The gap above 0.5mm can cause a blurred image.
Abnormal noise	<ul style="list-style-type: none"> • Check the Scanner Motor and any mechanical disturbance. 	<ul style="list-style-type: none"> • Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CCD carrying part.
	<ul style="list-style-type: none"> • Check the motor driver in Driver PBA. 	<ul style="list-style-type: none"> • If any driver is defective, replace it.




7.2 FAX (only SCX-6320F)

7.2.1 FAX/TELEPHONE Precautions

PROBLEM	ITEMS TO BE CHECKED.	HOW TO SOLVE
TEL LINE CANNOT BE ENGAGED (NO DIAL TONE)	<ul style="list-style-type: none"> When you press "OHD" key: <ol style="list-style-type: none"> Check line cord connection. Check MAIN LIU harness, and CN1 (LIU PBA). 	<ol style="list-style-type: none"> insert it correctly into the connection jack called "line". Replace defective parts.
Cannot MF dial	<ul style="list-style-type: none"> Check MAIN-LIU harness. 	<ul style="list-style-type: none"> Replace defective parts.
MF dial is possible but not DP dial.	<ul style="list-style-type: none"> Check DP control signal of MAIN PBA and Liu PBA. 	<ul style="list-style-type: none"> Replace LIU PBA.
Defective fax transmission	<ul style="list-style-type: none"> Check MAIN LIU harness. Is the external phone hooked off? Check 'hook off' : Refer to 'TEL LINE CANNOT BE ENGAGED' above. Check transmission path and reception path of the LIU PBA. 	<ul style="list-style-type: none"> Replace defective parts. Replace LIU PBA if low. Refer to 'TEL LINE CANNOT BE ENGAGED' above. Replace main PBA, if abnormal. Replace LIU PBA. Replace main PBA.
Defective automatic fax reception	<ul style="list-style-type: none"> Is the ring checked? Refer to 'Defective Transmission.' 	<ul style="list-style-type: none"> Replace LIU PBA if it cannot be checked. Refer to 'Defective Transmission'.

7.3 Print Quality

Error Status	Check	Solution
Vertical black line and band 	<ol style="list-style-type: none"> 1. Bad blade of Toner cartridge 2. LSU 3. Bad cleaning blade of drum cartridge. 	<ol style="list-style-type: none"> 1. Change Toner cartridge 2. Replace LSU 3. Replace drum cartridge.
Vertical white line 	<ol style="list-style-type: none"> 1. LSU window contamination 2. Toner cartridge 	<ol style="list-style-type: none"> 1. Clean LSU window 2. If not LSU, change Toner cartridge.
No image 	<ol style="list-style-type: none"> 1. GND OPC is well grounded? 2. LSU running well? 3. Biss voltage is normal? 4. Lower toner? 5. Is there video data from Main PBA 	<ol style="list-style-type: none"> 1. Measure the resistance between frame ground and the ground spring attached frame. Confirm stable ground. Unless bad ground, detach cabinet, check where is bad point 2. Adjust LSU or replace it 3. Normal Dev bias = -450V 4. Shake toner cartridge and print. If a like good, toner is empty 5. Test engine test pattern, replace Main PBA
Light image 	<ol style="list-style-type: none"> 1. LSU light power normal? 2. Enough toner? 3. High charger voltage? 4. Lower bias voltage 5. Contamination of high voltage contact. 6. Transfer voltage and roller. 	<ol style="list-style-type: none"> 1. LSU light power check is difficult. Compare with new one and check. 2. Check toner and the toner cartridge counter 3-4. Measure all high voltage output. 5. Leakage toner cause bad contact and increase contact resistance. Clean contaminated area.

Error Status	Check	Solution
Dark image 	<ol style="list-style-type: none"> 1. LSU light power normal? 2. Bias voltage output is high? 3. Video data is always supplied? 4. Bad high charge voltage contact. 	<ol style="list-style-type: none"> 1. Check the rated level and replace. 2. Set to power rating. 3. Replace defected board. 4. Check the charge voltage or change the drum cartridge.
Background 	<ol style="list-style-type: none"> 1. High voltage output is normal? 2. C/R of drum cartridge is contaminated? 	<ol style="list-style-type: none"> 1. Adjust to the rated status. 2. Replace drum cartridge.
Ghost 	<ol style="list-style-type: none"> 1. High voltage output. 2. Pre-Transfer Lamp. 3. Bad high voltage contact. 	<ol style="list-style-type: none"> 1. Check every high voltage. 2. Check the turn-on PTL, LED crash. 3. Clean the inside machine or replace drum cartridge.
Stains on back of paper	<ol style="list-style-type: none"> 1. Contamination of transfer roller. 2. Stains of paper path. 3. Pressure roller's contamination. 	<ol style="list-style-type: none"> 1. Clean the transfer roller with vacuum cleaner. 2. Clean the area of paper path with cloth or air cleaner. 3. Remove fuser and replace it.

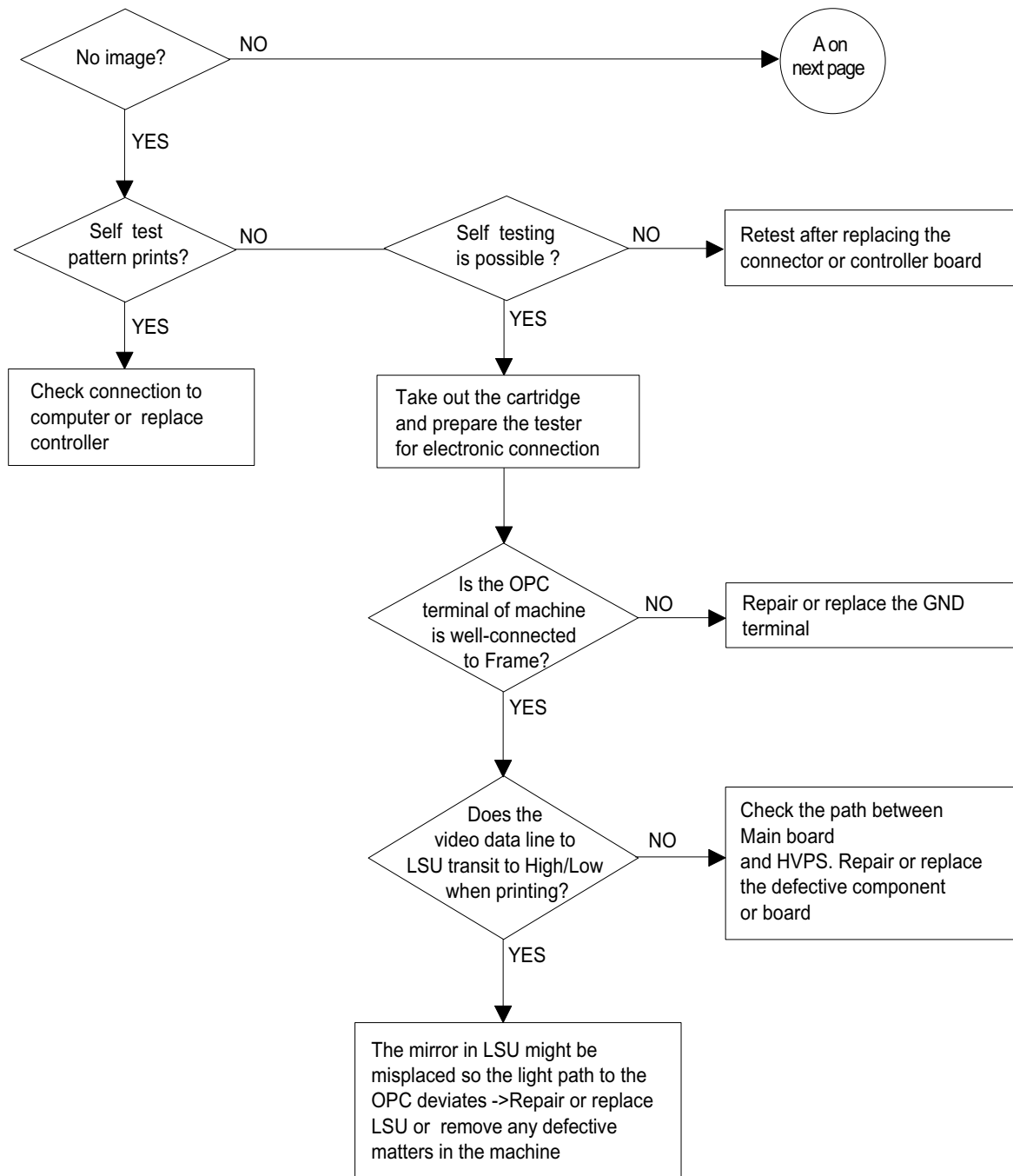
Error Status	Check	Solution
Poor Fusing	<ol style="list-style-type: none"> 1. Use recommended paper? 2. Check fusing temperature. 3. The machine was under the low temperature for a long time? 	<ol style="list-style-type: none"> 1. Should use recommended paper. 2. Check engine controller board. If you have not thermometer, measure the thermistor voltage to CPU, If $2.3V \pm 5\%$ in printing CPU works well. Then, disassemble fuser and check the thermistor contact and thermistor. 3. Re-check after putting the machine in the warm place for certain period.
Partial blank image (not periodic)	<ol style="list-style-type: none"> 1. Toner is low? 2. The toner cartridge is out of position? 	<ol style="list-style-type: none"> 1. Replace Toner cartridge. 2. Check and adjust.
Partial blank image (periodic)	<ol style="list-style-type: none"> 1. Develop roller scar or particle. 2. Scar or particle. (94.3 mm) 3. Transfer roller scar or particle. (56.6 mm) 	<ol style="list-style-type: none"> 1. Replace toner cartridge. 2. Replace drum cartridge. 3. Replace transfer roller.
Different image density (left and right) <div> Digital Printer Digital Printer Digital Printer Digital Printer Digital Printer </div>	<ol style="list-style-type: none"> 1. Charge roller's pressure force unbalance 2. Dev. roller and OPC or Dev. roller and blade's pressure force unbalance 3. Transfer roller's pressure force unbalance of each side 	<ol style="list-style-type: none"> 1. Replace drum cartridge. 2. Replace toner cartridge and drum cartridge. 3. Check left and right spring of transfer roller and the spring pressing the toner cartridge inside the machine
Horizontal band <div> Digital Printer Digital Printer Digital Printer Digital Printer </div>	<ol style="list-style-type: none"> 1. Unstable high voltage contact 2. Charge roller's contamination 3. Contamination of heat roller 4. Malfunction of LSU 	<ol style="list-style-type: none"> 1. Clean each contact and check good contact 2. Clean charge roller 3. Replace fuser unit 4. Check Main PBA.

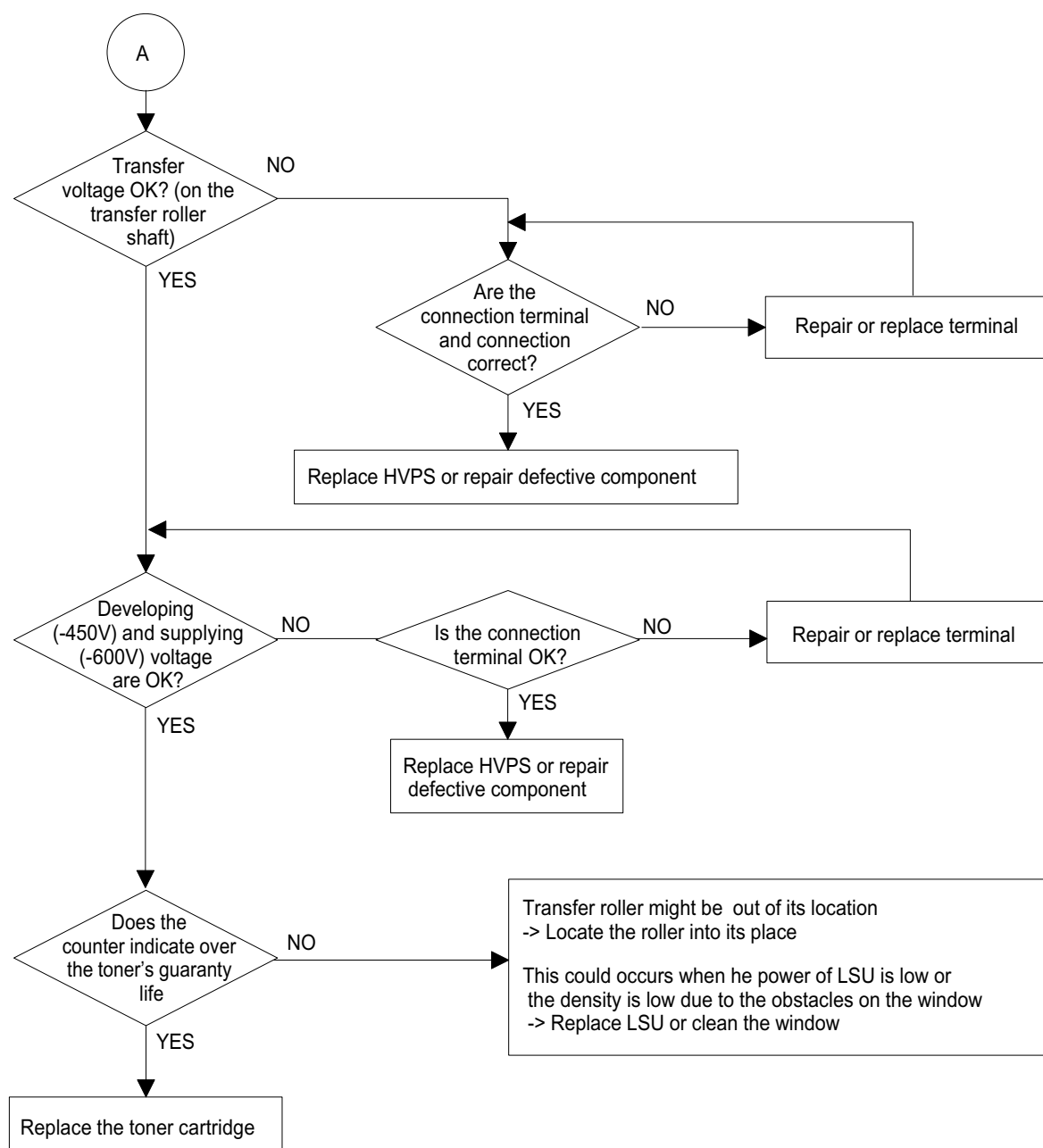
Abnormal Image Printing and Defective Roller

If abnormal image prints periodically, check the parts shown below.

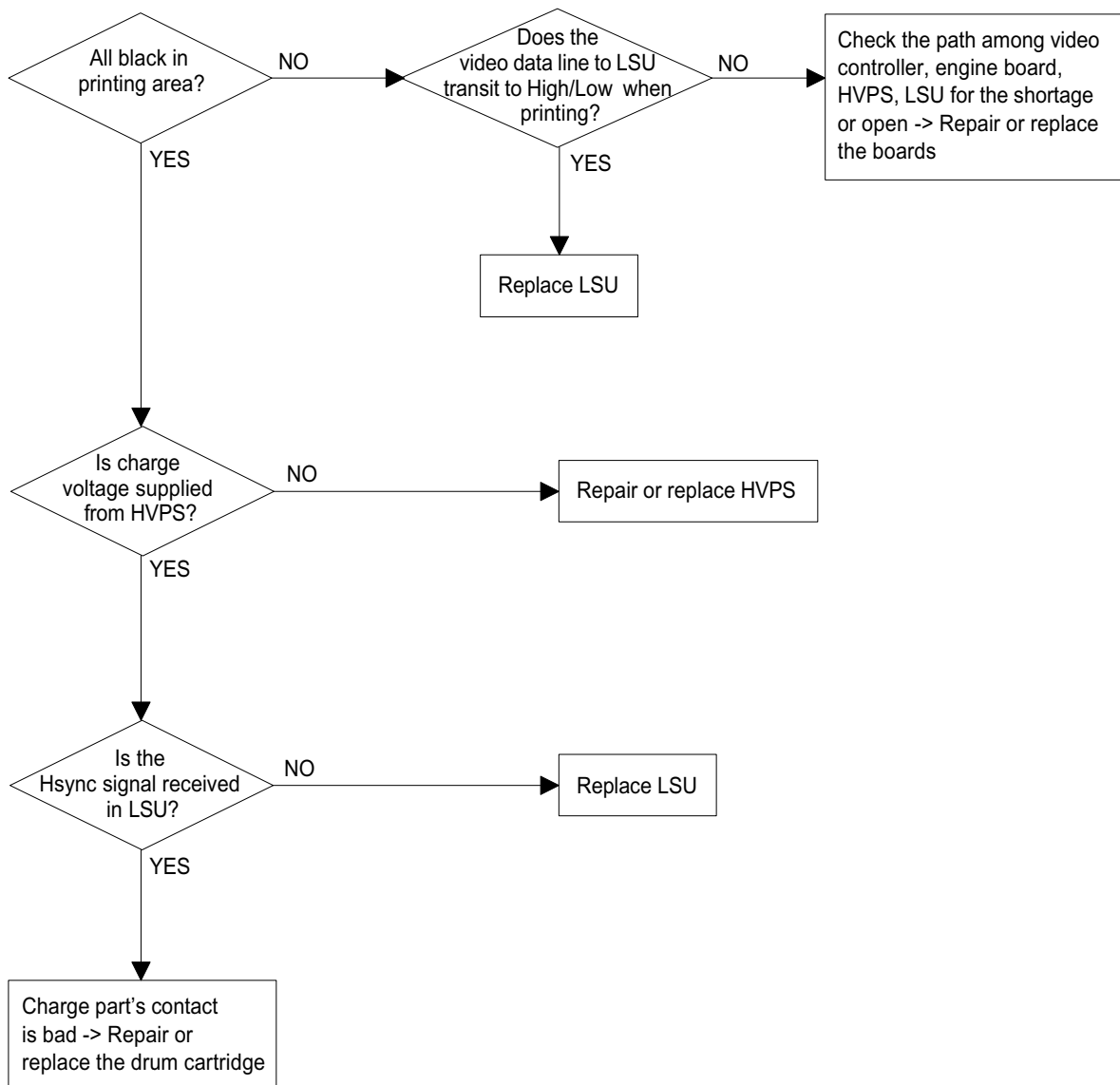
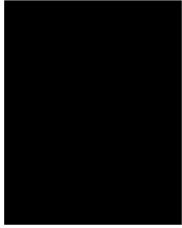
NO	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	94.3 mm	White spot. Black spot
2	Charge Roller	38.3 mm	White spot. Black spot
3	Supply Roller	43.8 mm	Horizontal dark band
4	Develope Roller	54.3 mm	Horizontal dark band
5	Transfer Roller	56.6 mm	Black side contamination/transfer fault
6	Heat Roller	83.6 mm	Black spot, White spot
7	Pressure Roller	91.0 mm	Black side contamination

No Image



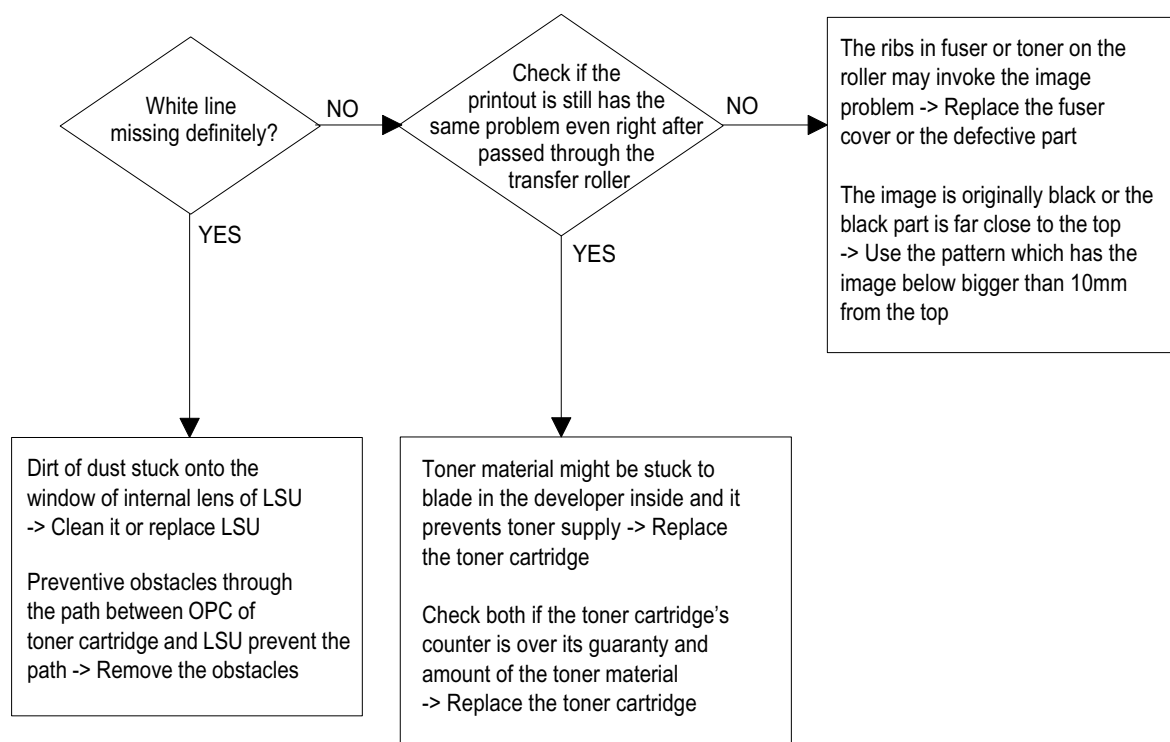


All Black

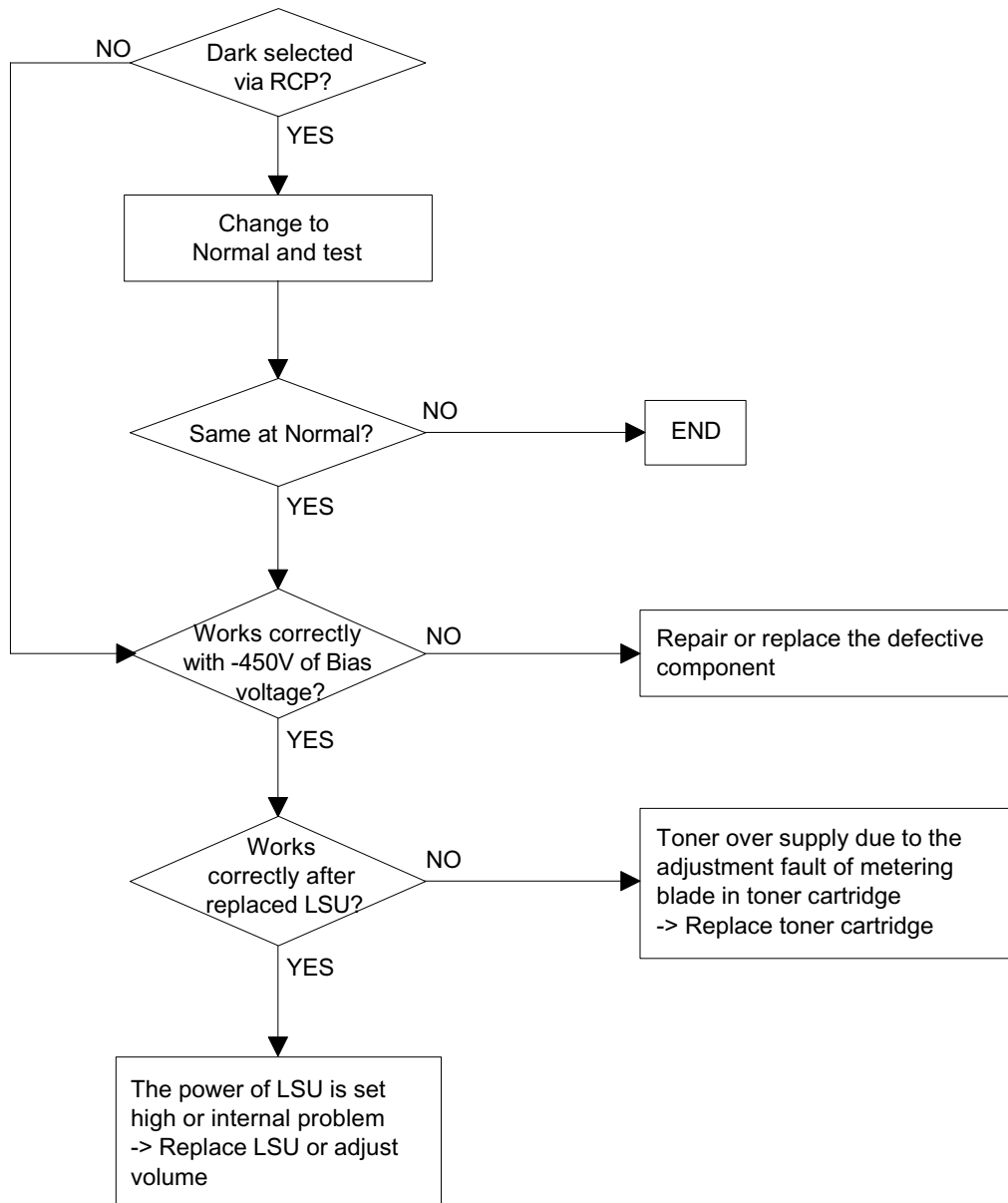
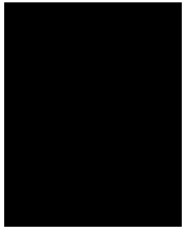


Vertical White Line (Band)

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer

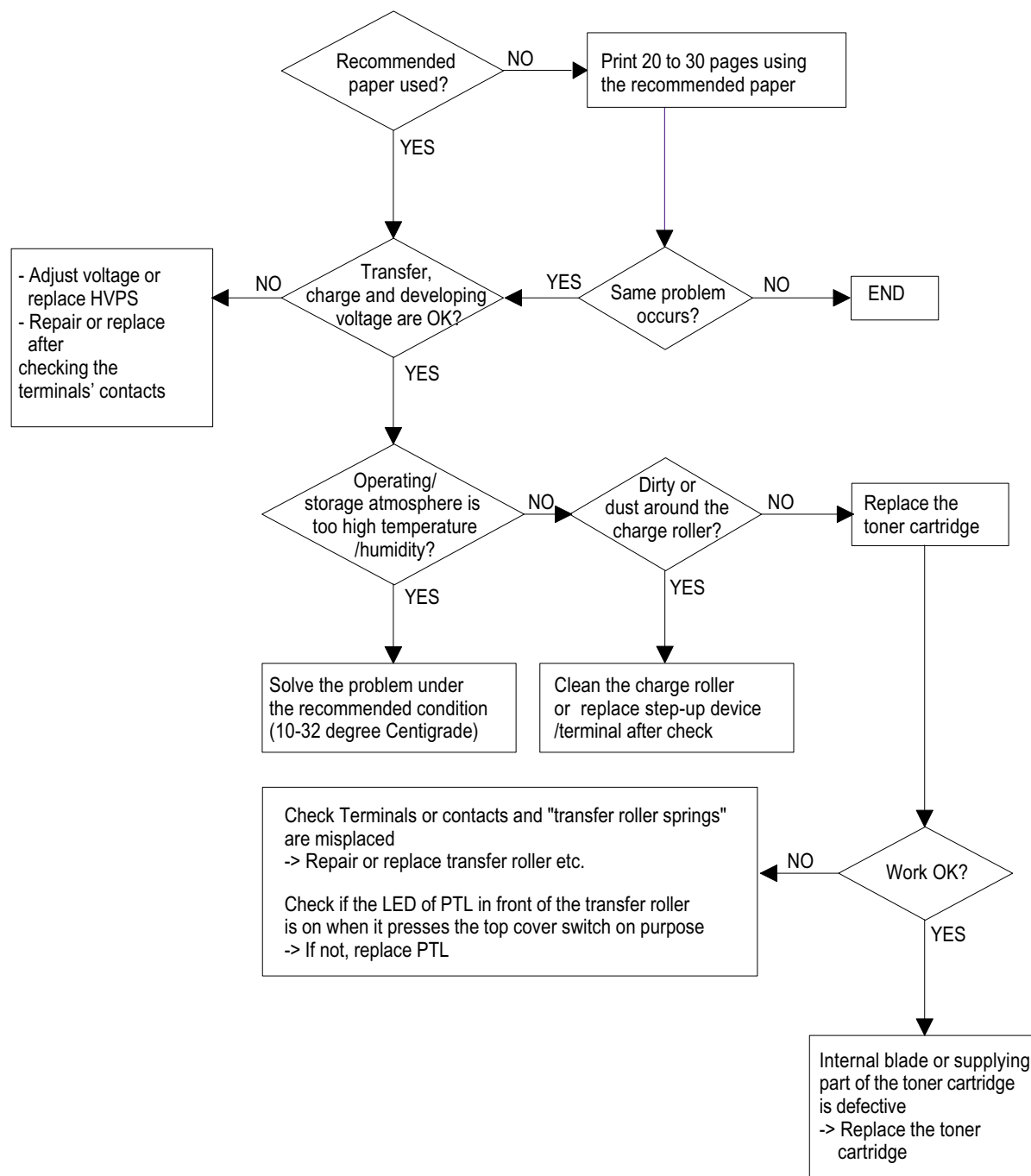


Dark Image



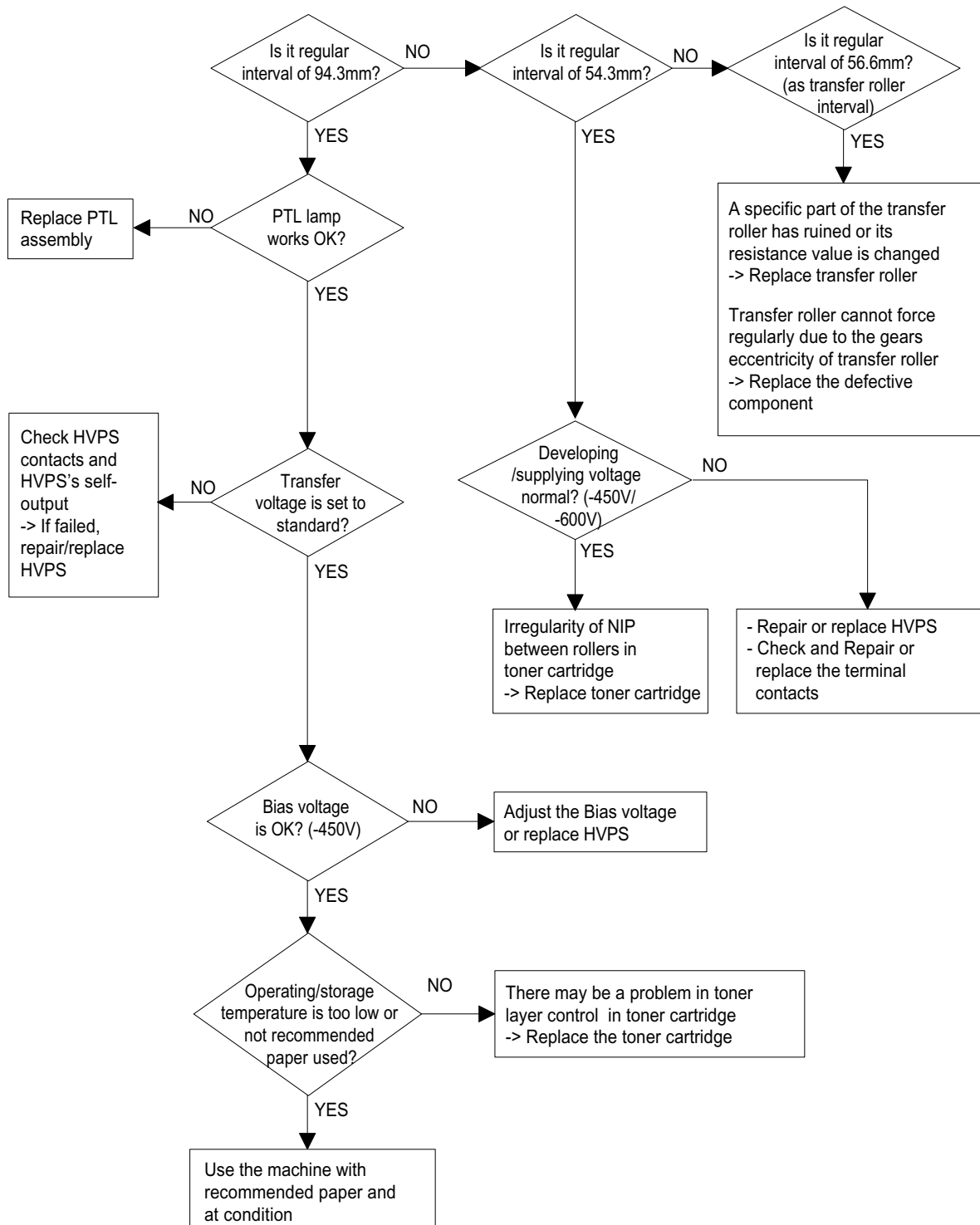
Barkground

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer

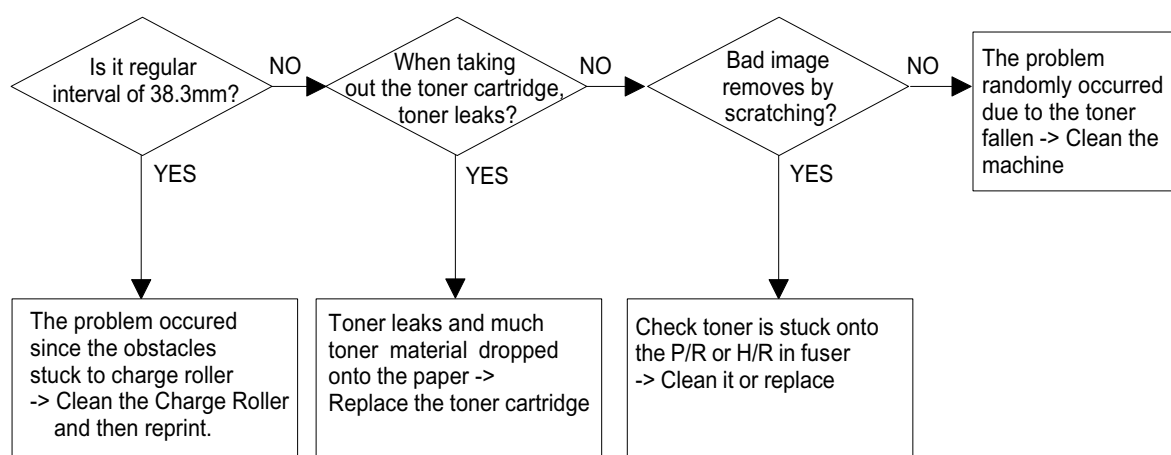


Ghost

Digital Printer
Digital Printer
Digital Printer
Digital Printer

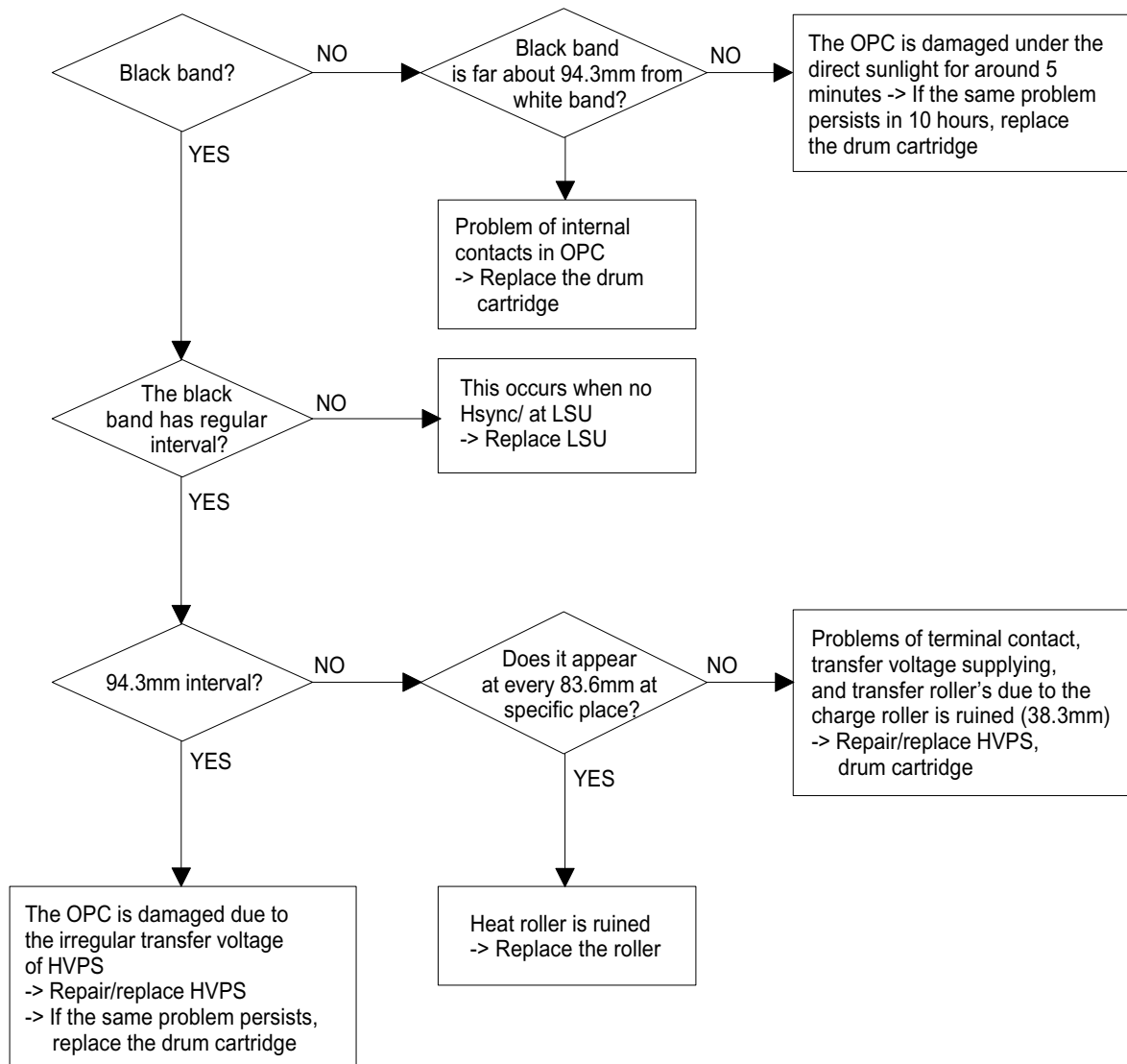


Black Spot



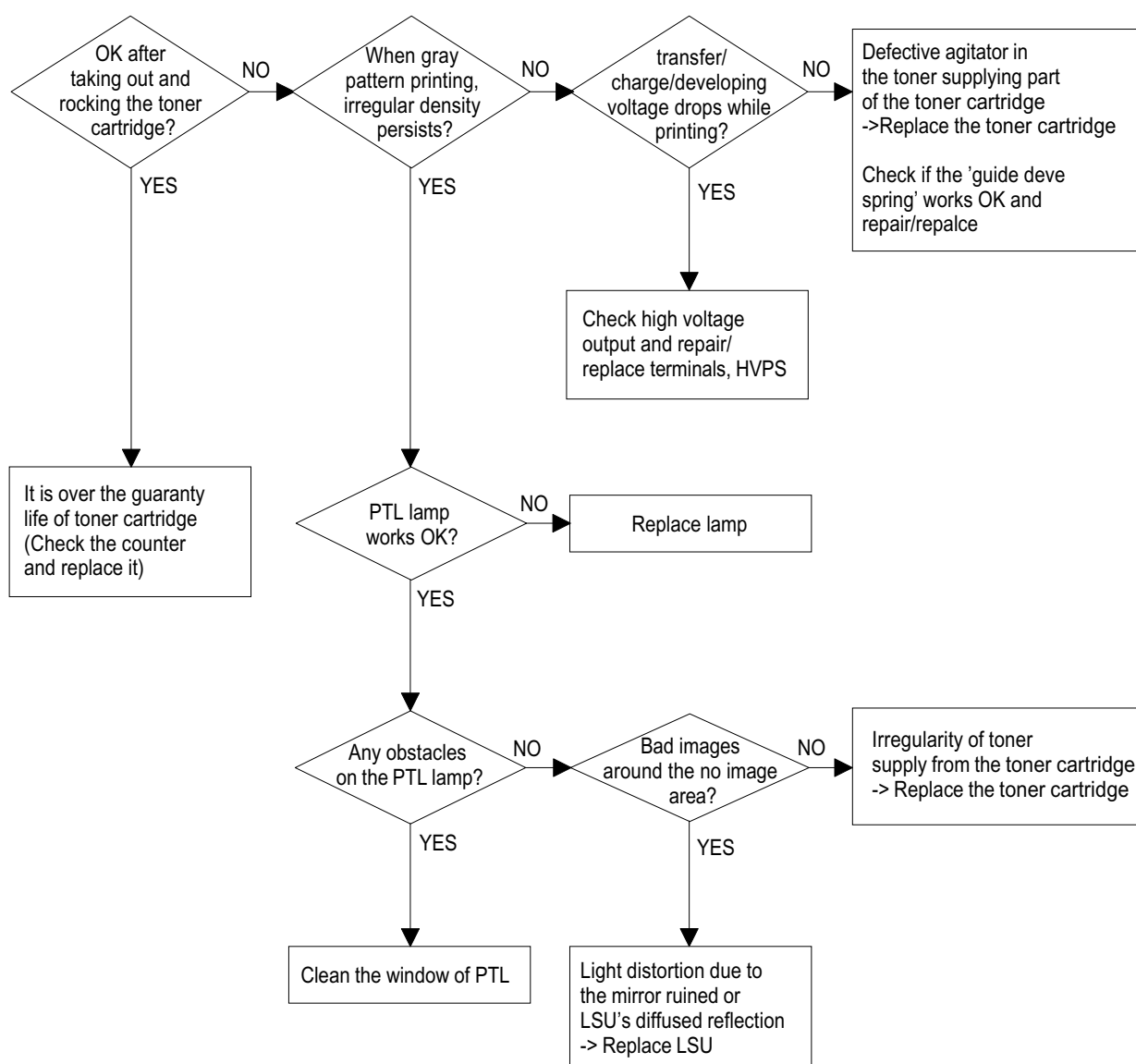
Horizontal Band

Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer
Digital Printer	Digital Printer



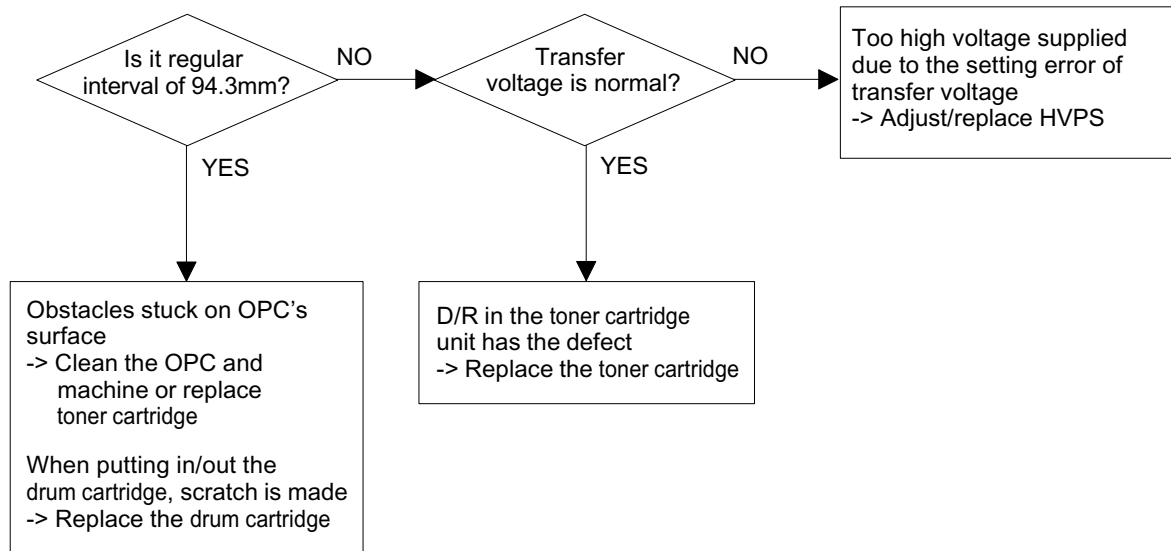
Irregular Density

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer

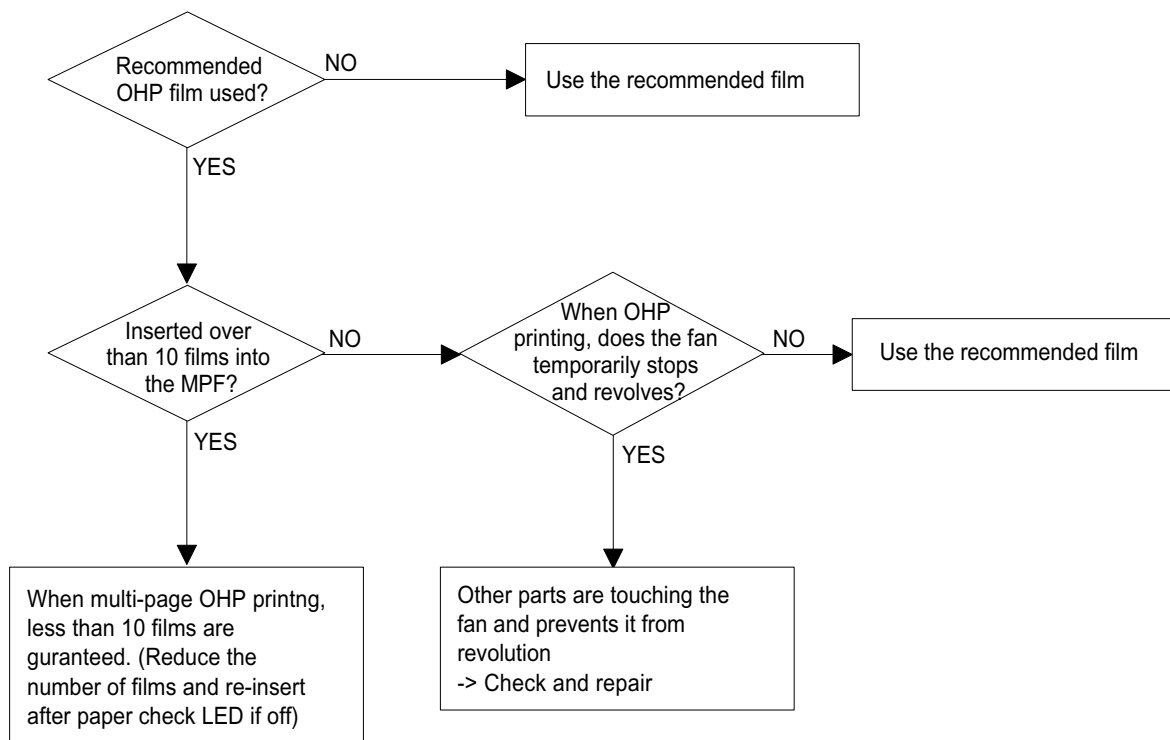


White Spot

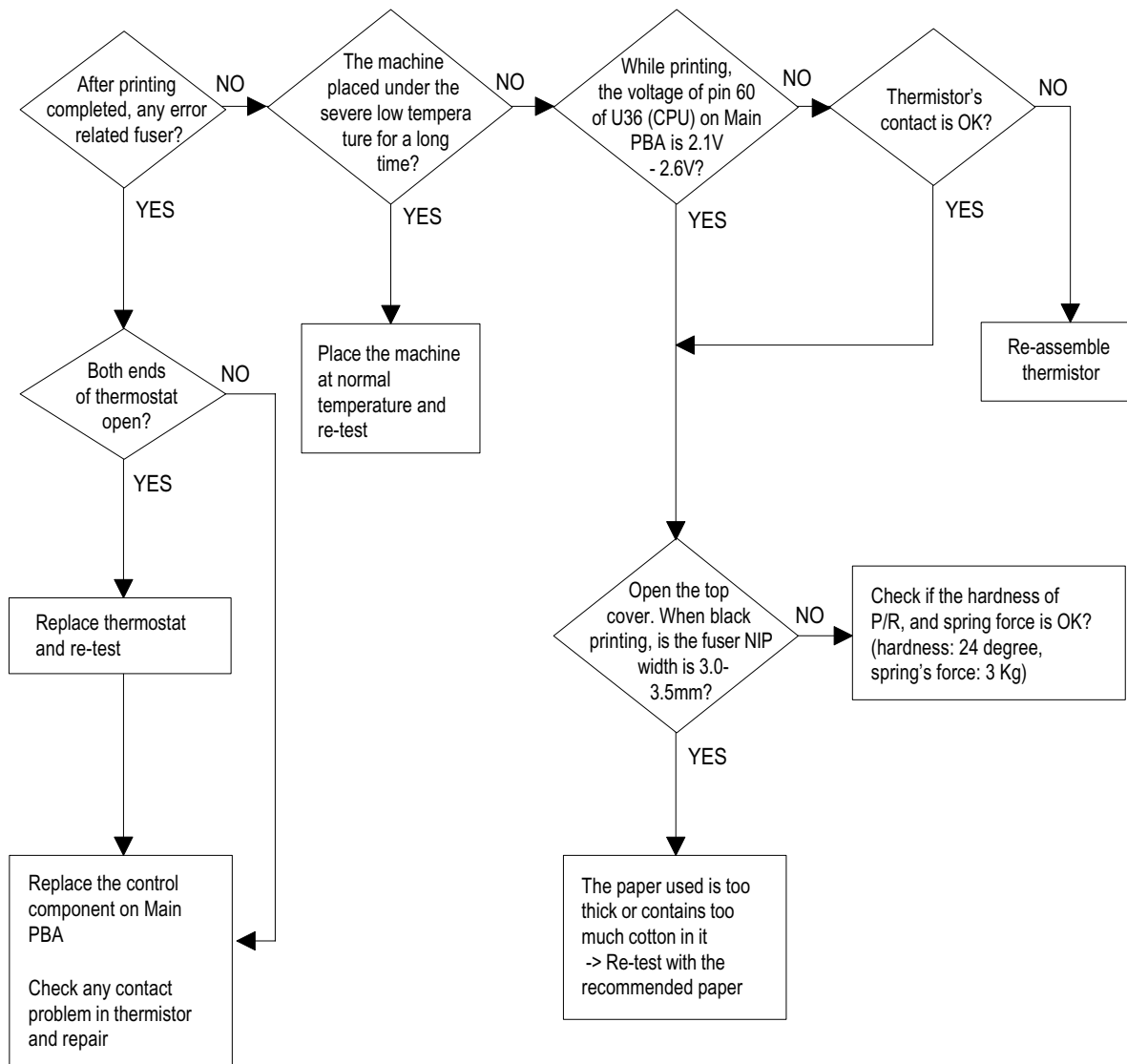
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer



Trembling at the End When OHP Printing



Poor Fusing Grade

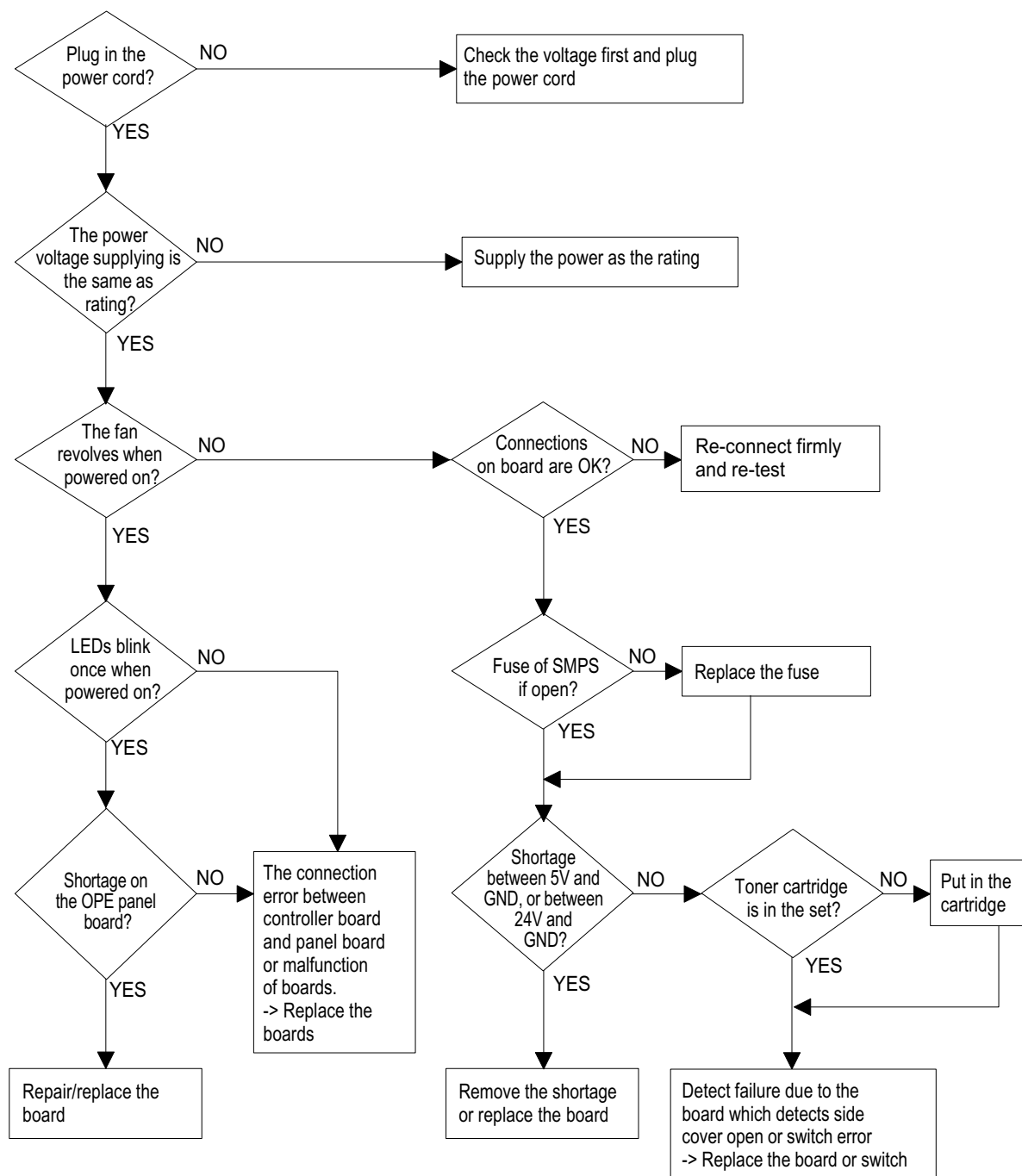


7.4 Malfunction

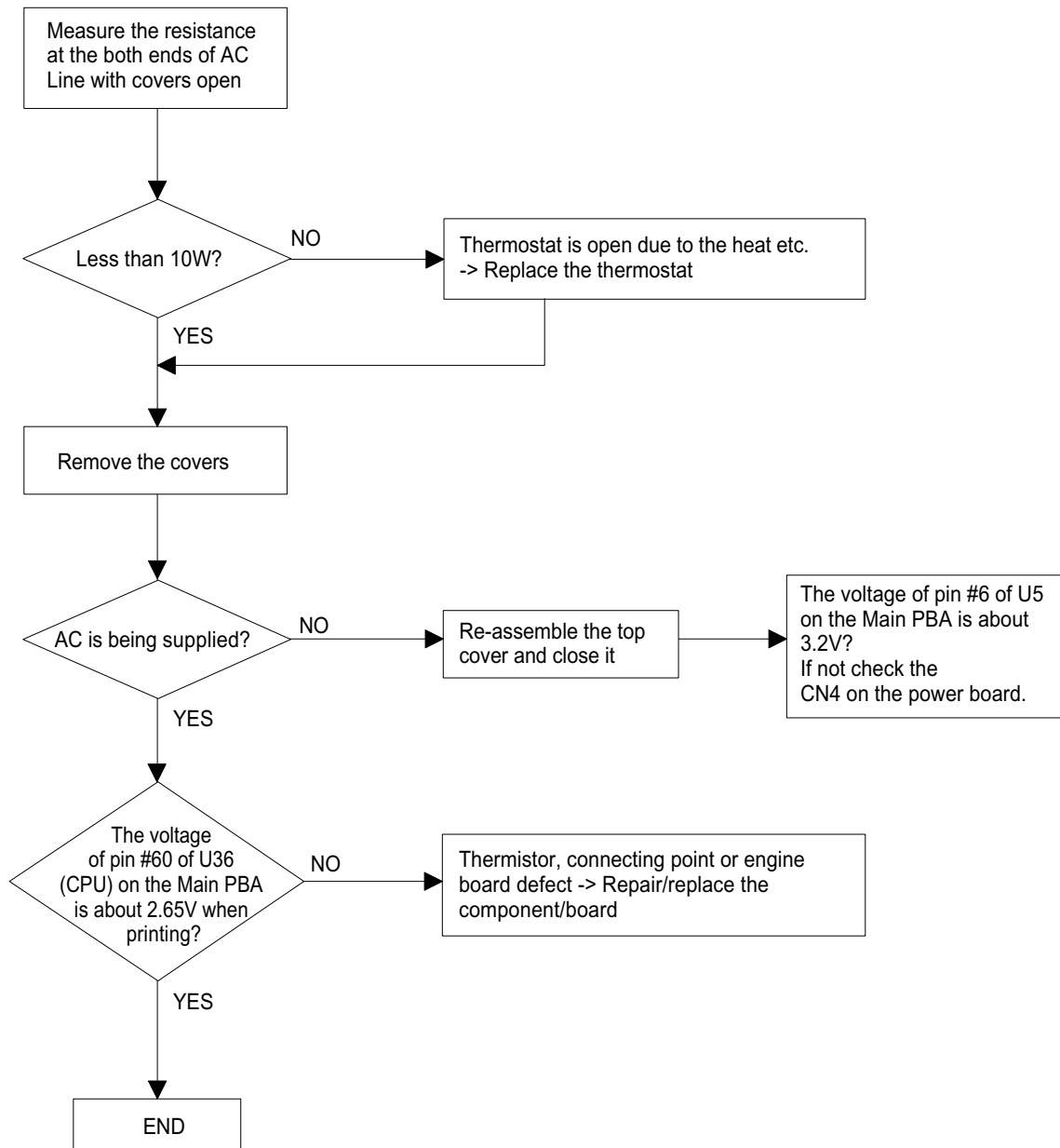
Error Status	Check	Solution
No power	<ol style="list-style-type: none"> 1. Check power is supplying 2. Check fuse F1 open 	<ol style="list-style-type: none"> 1. If supplying power differs from machine's power rating, replace the machine. 2. Replace it.
Fuser Error	<ol style="list-style-type: none"> 1. Thermostat open 2. AC wire open 3. Thermistor wire open 4. Main PBA 	<ol style="list-style-type: none"> 1. Detach AC connector and measure the resistance between pin 1 and 2. If it is megohm, thermostat is open, Replace it. 2. Check bad connector contact or wire is cut. 3. Check thermistor wire and its connection. 4. Replace Main PBA
Cover open	<ol style="list-style-type: none"> 1. When close Side cover, check the lever is pressed 2. Micro switch's contact 3. CPU and related circuit 	<ol style="list-style-type: none"> 1. Open Side cover and press the lever with pen. If Controller detects cover close, there is some mechanical trouble in Side cover and lever's assembly. If not so there is electrical problem.
Jam 0	<p>Check where Jam 0 happens</p> <ol style="list-style-type: none"> 1. Paper is not picked up 2. Paper is located in feed sensor 3. Happened when inserting specific papers such as envelope into the MPF (Multipurpose Paper Feeder)? 4. Happened when inserting specific papers such as envelope into the Manual Feeder? 5. Is the Stacker Extender is folded out? 6. Does not the Guide Adjust distort the papers 	<ol style="list-style-type: none"> 1. Check whether solenoid is working or not by using Engine test mode 2. Check feed sensor malfunction. 3. Re-try inserting a few papers. <ul style="list-style-type: none"> •fan the papers and align •take out the loaded papers and insert them reverse direction 4. Take out the loaded papers and insert them reverse direction <ul style="list-style-type: none"> •inserted papers as recommended for Manual Feeding? •When loading, tap the papers until paper detect sensor senses loading 5. When using long papers, use the Stacker Extender
Jam 1	<p>Paper is stopped in just after of fuser unit.</p>	<ol style="list-style-type: none"> 6. Adjust Guide to fit the paper width 1. It is mostly resulted from double feeding. Check paper is well stocked in feeder. 2. Check feed actuator position and actuator's operating. There may be stiff moving or double reflection. If not so, check the operation of feed sensor by Engine test mode. 3. Check exit lever operation. Remove jam and check actuator moving by hand. If actuator is too stiff, paper is wrapped around the heat roller. Remove obstacles or replace.

Error Status	Check	Solution
Jam 2	<p>Check where Jam 2 happens</p> <ol style="list-style-type: none"> 1. Paper is curled and cannot exit. 2. Paper is curled in the exit cover?. 	<ol style="list-style-type: none"> 1. Remove paper using pinset or some tool and watch if separate claws have any trouble. Clean around fuser. 2. Check locking works wells. Watch whether the ribs of exit cover have any burr or resistive edge. If they do, remove obstacles or replace.
Jam 2 at face-down tray	<ol style="list-style-type: none"> 1. Then paper is not drawn in because of the stack of papers in the Out tray. 2. Does it curl while coming out? 	<ol style="list-style-type: none"> 1. Load recommended quantity of papers 2. Open the Cover Front and check whether roller or spring, which are related to paper out, is not out of position. If so, re-locate or replace.
Clutch error	<ol style="list-style-type: none"> 1. Check the spring of solenoid 2. Check the armature assembly/cushion 3. Electrical check 	<ol style="list-style-type: none"> 1. Check whether the spring is expanded or not. 2. Check armature is well installed. It may be unstable assemble. 3. Remove the Main PBA.
High voltage error	<ol style="list-style-type: none"> 1. Check the terminal output voltage 2. Check HVPS 	<ol style="list-style-type: none"> 1. Remove the Toner cartridge and open the cover and press cover open switch lever and measure the voltage with high voltage probe and sending printing data. If the voltage is normal, change the toner cartridge. 2. Disassemble the left side cover, and check HV of the solder side of HVPS and change it.
Feeding obstacles	Does the Plate-knockup prevent the paper loading?	<p>MPF :</p> <p>Turn the power off and on. Open and close the Side cover to return to the original state.</p> <p>Cassette :</p> <p>Adjust Guide to fit the paper width.</p>
Skew	Is the Guide adjust set to the paper width?	Fit the paper width using the Guide adjust.
Stacking	<ol style="list-style-type: none"> 1. Took out the Stacker extender to support long papers? 2. Stacked too many papers more than Stacker can hold? 	<ol style="list-style-type: none"> 1. Use extender as per the paper length. 2. The Face-up stacker normally can hold 100 pages when using 75g/m2, however, stacking capacity can be lowered depending on the type of papers.
Engine Error	Check CBF Harness_CN7.(Main PBA to LSU)	Refer to troubleshooting "ENGINE ERROR".
Document Jam	Document is not picked up(in ADF).	<ol style="list-style-type: none"> 1. Check document is well stocked in ADF. 2. Check whether document was been fastened together by staple or clip. 3. Load recommended quantity of papers.
	Document is stopped after it has fed into the ADF.	<ol style="list-style-type: none"> 1. Check whether the Reg. sensor is working or not. 2. Check whether the Feed Roller is working or not.
	Does it curl while coming out?	<ol style="list-style-type: none"> 1. Check the Open Cover whether there are bosses. 2. Check the ADF ass'y is well assemble.

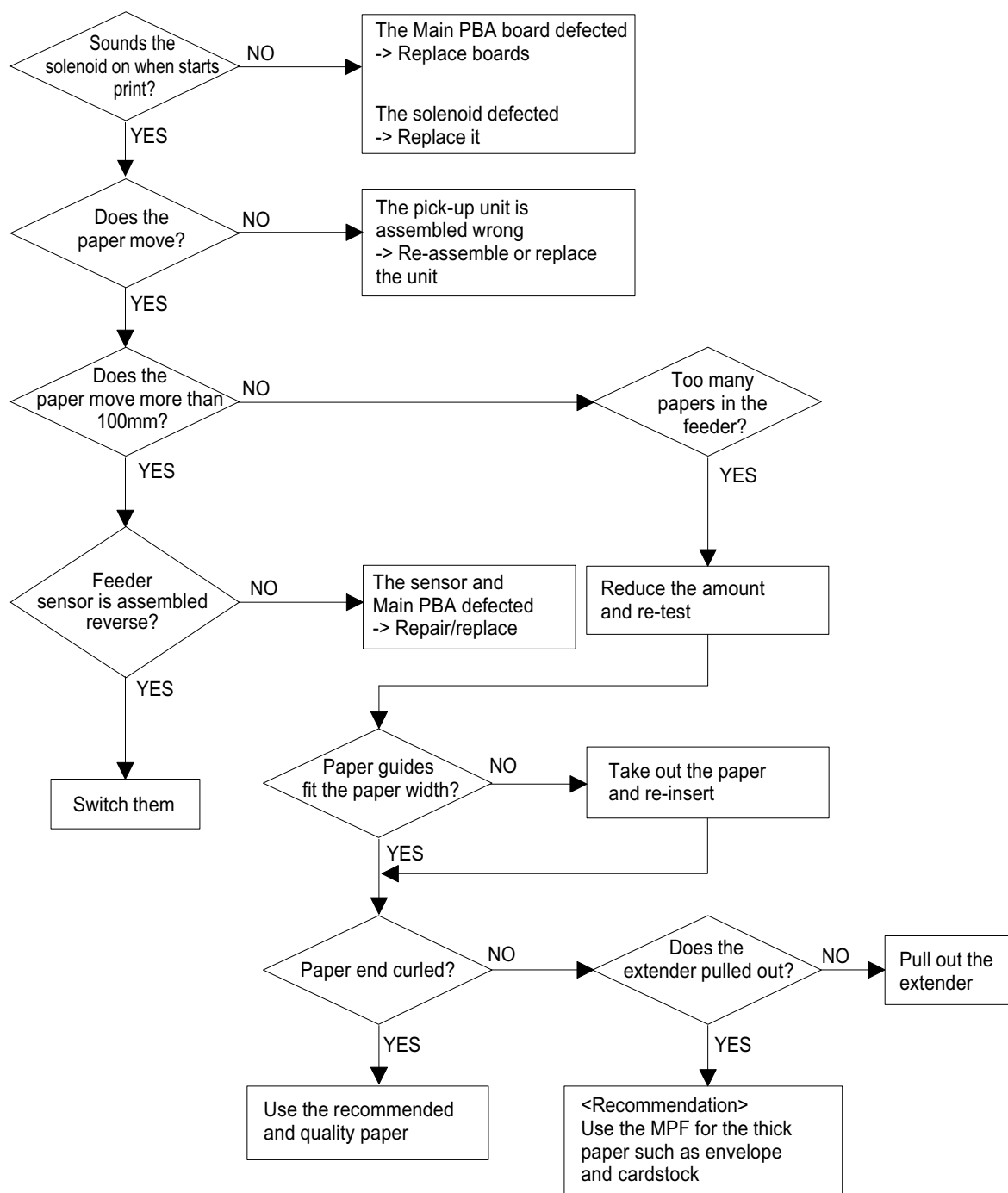
No Power (LCD NO display LED Off)



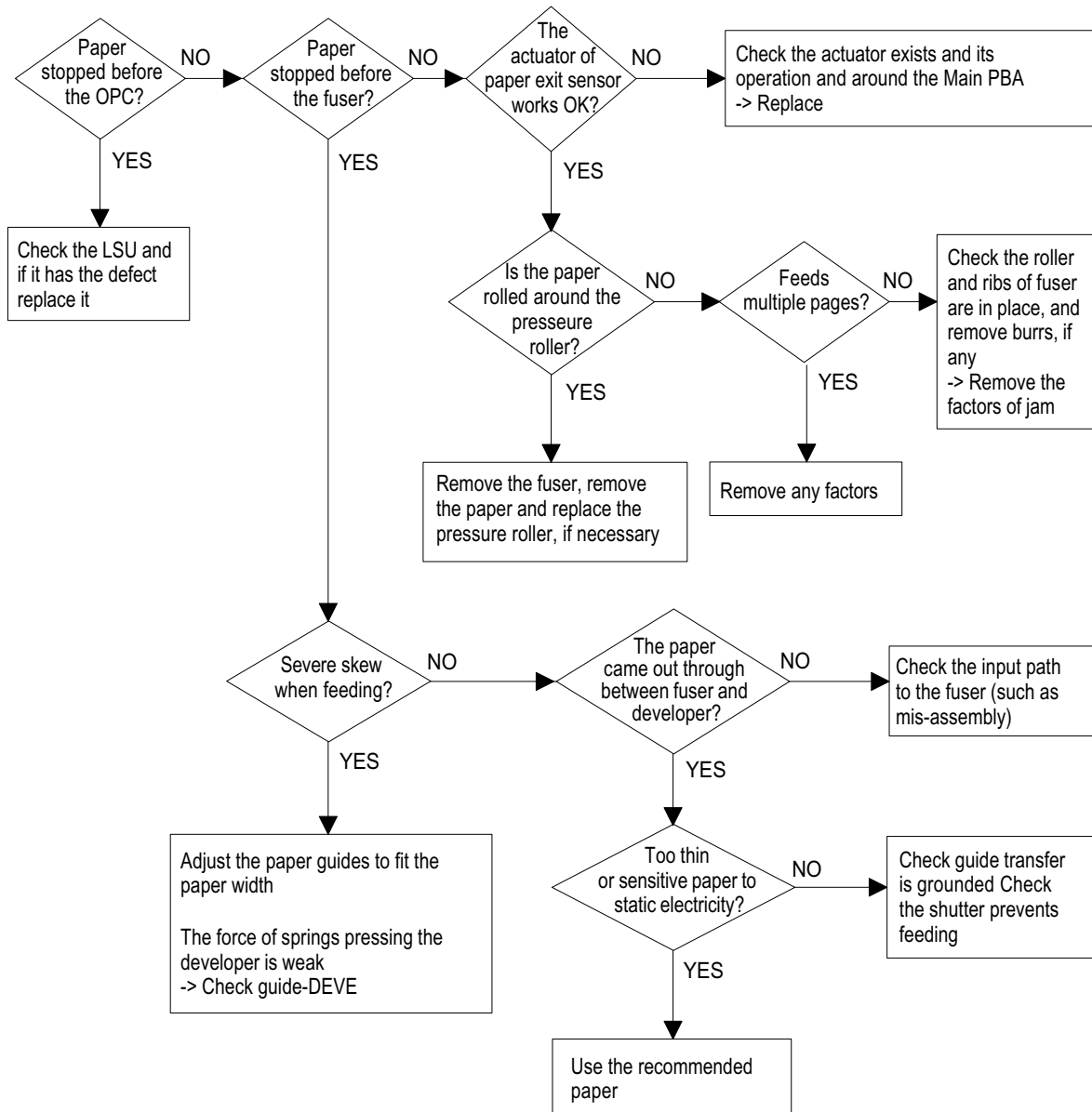
Fuser Error



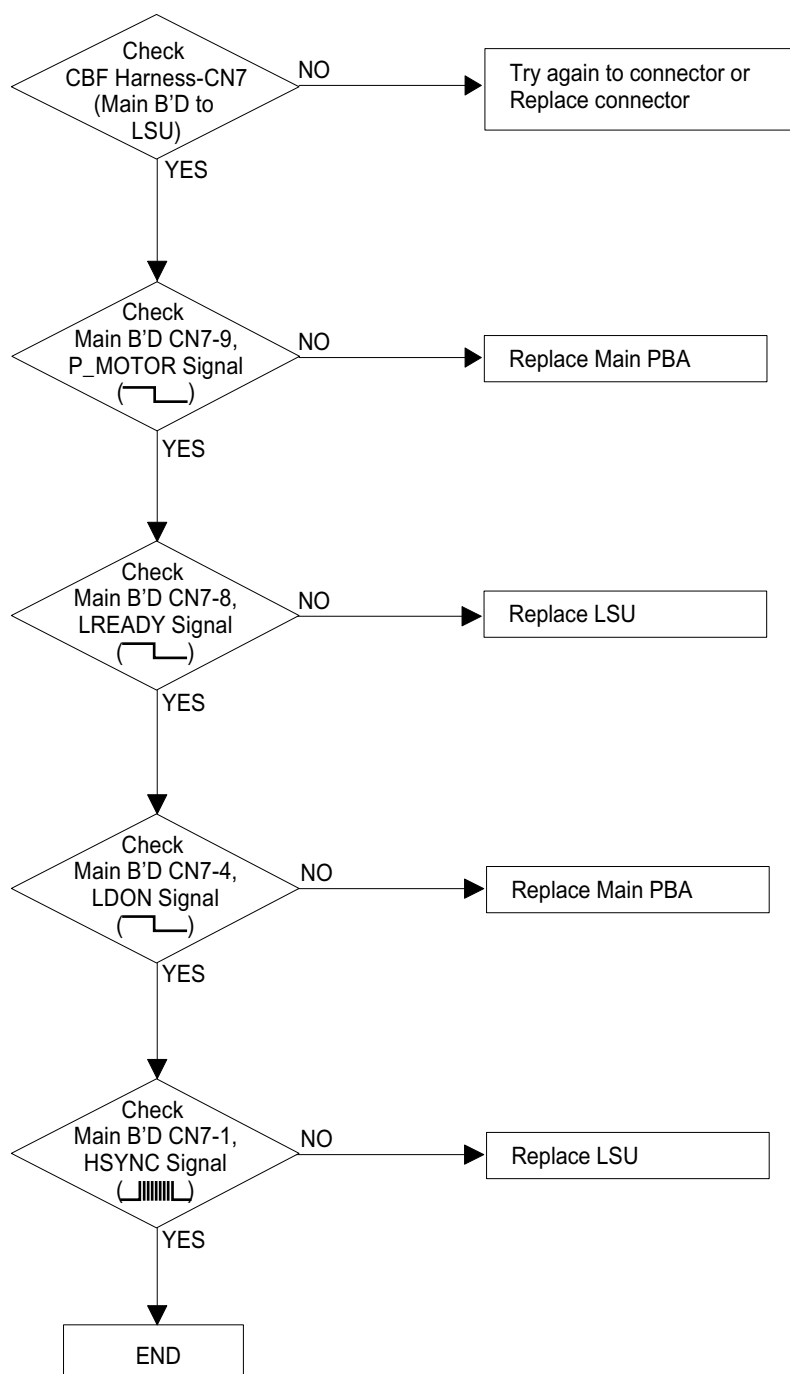
Paper Jam (Mis-Feeding)



Paper Jam (Jam 1)



Engine Error



7.5 Toner Cartridge and Drum Cartridge Service

It is not guaranteed for the default caused by using other toner and the drum cartridge other than the cartridge supplied by the Samsung Electronic or caused by non-licensed refill production.

Precautions on Safe-keeping of the Drum Cartridge

Excessive exposure to direct light more than a few minutes may cause damage to the drum cartridge.

Service for the Life of Toner Cartridge


If the printed image is light due to the life of the toner, you can temporarily improve the print quality by redistributing the toner(Shake the toner cartridge), however, you should replace the toner cartridge to solve the problem thoroughly.

Service for Judgement of Inferior Expendables and the Standard of Guarantee

Please refer to User's Manual or Instructions on Fax/Printer Expendables SVC for the judgement of inferior expendables and the standard of guarantee besides this service manual.

7.5.1 Signs and Measures at Poor toner cartridge

Fault	Signs	Cause & Check	Solution
Light image and partially blank image (The life is ended.) <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Digital Printer Digital Printer Digital Printer Digital Printer Digital Printer </div>	<ul style="list-style-type: none"> The printed image is light or unclear and untidy. Some part of the image is not printed. Periodically a noise as "tick tick" occurs. 	<ol style="list-style-type: none"> If the image is light or unclear and untidy printed image - Shake the toner cartridge and then recheck. (1)NG: Check the weight of the toner cartridge (2)OK: Lack of toner, so the life is nearly closed. Some part of image is not printed - Shake the toner cartridge and then recheck. (1)NG: Check the weight of the toner cartridge and clean the LSU window with a cotton swab, then recheck. (2)OK: Lack of toner, so the life is nearly closed. Periodically a noise as "tick tick" occurs - Measure the cycle and the weight of the toner cartridge. White vertical stripes on the whole screen or partly : Check the weight of the toner cartridge. 	<ol style="list-style-type: none"> All of 1, 2, 3 above- If it become better by shaking, replace with a new toner cartridge after 50-100 sheets in the closing state of the life span. In case of 2- If it becomes better after cleaning the LSU window, then the toner cartridge is normal. (Because of foreign substance on the LSU window, the image has not been printed partly.) In case of 3- If the cycle of noise is about 2 seconds, the toner inside the toner cartridge has been nearly exhausted. (Purchase and replace with a new toner cartridge after using about 200 sheets at the point of occurrence) In case of 3- This is a phenomenon caused by lack of toner, so replace with a new toner cartridge.
Toner Contamination	<ul style="list-style-type: none"> Toner is fallen on the papers periodically. Contaminated with toner on prints partly or over the whole surface. 	<ol style="list-style-type: none"> Toner is fallen on the paper periodically. (1)Check the cycle of the falling of the toner. (2)Check the appearance of both ends of the toner cartridge and the drum cartridge. The center of the printed matter is contaminated with toner. (1)Check whether foreign substances or toner are stuck to the terminal (contact point) of the toner cartridge and the drum cartridge. (2)Check whether the state of the terminal assembly is normal. 	<ol style="list-style-type: none"> If both ends of the OPC drum are contaminated with toner: Check the life of the toner cartridge and the drum cartridge. Check whether it could be recycled.

Fault	Signs	Cause & Check	Solution
<p>White or Black spot</p> 	<ul style="list-style-type: none"> • Light or dark black dots on the image occur periodically. • White spots occur in the image periodically. 	<ol style="list-style-type: none"> 1. If light or dark periodical black dots occur, this is because the deve rollers are contaminated with foreign substance or paper particles. <ol style="list-style-type: none"> (1)38.3mm interval : Charged roller (2)94.3mm interval : OPC cycle 2. If white spots occur in a black image at intervals of 94.3 mm, or black spots occur elsewhere, the OPC drum is damaged or foreign substance is stuck to the surface. 3. If a black and white or graphic image is partially broken at irregular intervals, the transfer roller's life has been expired or the transfer voltage is abnormal. 	<ol style="list-style-type: none"> 1. In case of 1 above - Run OPC Cleaning Mode Print 4-5 times repeatedly to remove. Especially check foreign substance on the OPC surface, then remove them with a clean gauze moistened with IPA(Isopropyl Alcohol) not to damage OPC if necessary. Caution : Never use usual alcohol. 2. In case of 2 - If they are not disappeared by running OPC Cleaning Mode Print 4-5 times. <ul style="list-style-type: none"> : at intervals of 94.3mm - Replace the OPC Drum. : at intervals of 38.3mm - Remove foreign substance, Clean the Charged Roller : Broken image - Replace the toner cartridge according to carelessness. 3. In case of 3 - Exchange the transfer roller because the life of the transfer roller in use has been expired. (Check the transfer voltage and readjust if different.)
Recycled product	<ul style="list-style-type: none"> • Poor appearance of the toner cartridge and the drum cartridge. • Unclean and rough printouts. • Bad background in the image. 	<ol style="list-style-type: none"> 1. Poor appearance of the toner cartridge and the drum cartridge. <ol style="list-style-type: none"> (1)Check the damage to label and whether different materials are used. (2)Check the appearance of parts of the toner cartridge and the drum cartridge, such as frame, hopper. 2. Unclean and rough printouts. <ol style="list-style-type: none"> (1)Check whether foreign substance or toner are stuck to the terminal (contact point) of the toner cartridge and the drum cartridge. (2)Check whether the state of the terminal assembly is normal. 	<ol style="list-style-type: none"> 1. In case of 1 - <ol style="list-style-type: none"> (1)If there is an evidence of disassembling the toner cartridge. (2)If materials other than normal parts of the toner cartridge are added or substituted. 2. In case of 2 - If there are any abnormalities in connection with the situation of 1. <ol style="list-style-type: none"> (1)It occurs when the toner cartridge is recycled over 2 times. (2)If toner nearly being expired are collected to use, it is judged as the recycled toner cartridge.

Fault	Signs	Cause & Check	Solution
Ghost & Image Contamination	<ul style="list-style-type: none"> The printed image is too light or dark, or partially contaminated black. Totally contaminated black. (Black image printed out) 	<p>1. The printed image is too light or dark, or partially contaminated black.</p> <p>(1) Check whether foreign substance or toner are stuck to the terminal (point of contact) of the toner cartridge.</p> <p>(2) Check whether the terminal assembly is normal.</p> <p>2. Totally contaminated black. (Black image printed out)</p> <p>(1) Check whether foreign substances are stuck to the terminal (point of contact) of the toner cartridge and the drum cartridge and the state of assembly. (Especially check the charged roller terminal.)</p>	<p>1. All of 1, 2, 3 above</p> <p>(1) Remove toner and foreign substances adhered to the contact point of the toner cartridge.</p> <p>(2) The contact point of the unit facing that of the toner cartridge also must be cleaned.</p> <p>(3) If the terminal assembly is unsafe:</p> <ul style="list-style-type: none"> Fully stick the terminal to or reassemble it after disassembling. Disassemble the side plate and push the terminal to be stuck, then reassemble it. <p>2. In case of 2</p> <p>It is a phenomenon when the OPC drum of the drum cartridge is not electrically charged. Clean the terminals of the charged roller, then recheck it.</p>

7.6 The cause and solutions of bad environment of the software

7.6.1 The printer is not working (1)

• **Description** : While Power turned on, the printer is not working in the printing mode.

Check and Cause	Solution
1. Check if the PC and the printer is properly connected and the toner cartridge installed.	1. Replace the printer cable. If the problems not solved even after the cable replaced, check the amount of the remaining tone.
2. Printing is nor working in the Windows.	2. Check if the connection between PC and printer port is proper. If you use windows, check if the printer driver in the controller is set up. If the printer driver is properly set up, check in which program the printing is not working. The best way to find out is to open the memo pad to check the function of printing. If it is not working in a certain program, adjust the setup the program requires. Sometimes, the printout is normal within the Windows basic programs, but it's not working in a particular program. In such case, install the new driver again. If not working in the Windows basic program, Check the setup of the port of CMOS is on ECP. And check the address of IRQ 7 and 378
3. Check if the printer cable is directly connected to peripheral devices	3. If the scanner needs to be connected to the printer, first the remove the scanner from the PC to see if the printer is properly working alone.

7.6.2 The printer is not working (2)

• **Description** : After receiving the printing order, no response at all or the low speed of printing occurs due to wrong setup of the environment rather than malfunction of the printer itself.

Check and Cause	Solution
1. Secure more space of the hard disk.	1. Not working with the message 'insufficient printer memory' means hard disk space problem rather than the RAM problem. In this case, provide more space for the hard disk. Secure more space using the disk utilities program.
2. Printing error occurs even if there is enough space in the hard disk.	2. The connection of the cable and printer port is not proper. Check if the connection is properly done and if the parallel port in CMOS is rightly set up.
3. Check the parallel-port-related items in the CMOS Setup.	3. As a printer port, Select ECP or SPP among SPP(Normal), ECP, and EPP modes(increase printing speed) SPP normal mode support 8-bit data transfer, while ECP Mode transfer the 12-bit data.
4. Reboot the system to print.	4. If the regular font is not printing, the cable or the printer driver may be defective. Turn the PC and printer off, and reboot the system to print again. If not solved, double-click the printer in my computer If the regular fonts are not printed this time again. the cable must be defective so replace the cable with new one.

7.6.3 Abnormal Printing

- **Description** : The printing is not working properly even when the cable has no problem. (even after the cable is replaced) If the printer won't work at all or the strange fonts are repeated, the printer driver may be defective or wrong setup in the CMOS Setup.

Check and Cause	Solution
1. Set up the parallel port in the CMOS SETUP.	1. Select SPP(Normal) or ECP LPT Port the among ECP, EPP or SPP in the CMOS Setup.
2. Printer Driver Error.	2. Check the printer in My Computer.(to see if the printer driver is compatible to the present driver or delete the old driver, if defective and reinstall the new driver)
3. Error message from insufficient memory. (The printing job sometimes stops or due to insufficient virtual memory, but it actually comes from the insufficient space of the hard disk.)	3. Delete the unnecessary files to secure enough space of the hard disk and start printing job again.

7.6.4 SPOOL Error

- **Description** : To spool which stands for "simultaneous peripheral operations online" a computer document or task list (or "job") is to read it in and store it, usually on a hard disk or larger storage medium so that it can be printed or otherwise processed at a more convenient time (for example, when a printer is finished printing its current document).

Check and Cause	Solution
1. Insufficient space of the hard disk in the directory assigned for the basic spool.	1. Delete the unnecessary files to provide more space to start printing job.
2. If the previous printing error not solved.	2. If there are some files with the extension name of ****.jnl, Delete them and Reboot the Windows to restart printing job.
3. When expected to collide with other program.	3. Shut down all other programs except the current one, if possible.
4. When an application program or the printer driver is damaged.	4. Delete the printer driver completely and reinstall it.
5. When some files related to OS are damaged or virus infected.	5. After rebooting the computer, check for viruses, restore the damaged files and reinstall the program to do the printing job.
6. Memory is less than suggested one.	6. Add up enough memory to the PC.

How to delete the data in the spool manager.

In the spool manager, the installed drivers and the list of the documents waiting to be printed are shown.

Select the document to be deleted and check the delete menu.

If you intend to delete the current document being printed, the data being transferred to the printer will be put out and then the document is removed. Before choosing the document, the menu is still inactive.

Or put the document out of the list and repeat the routine as in the above or finish the spool manager.

8. Exploded Views and Parts List

8.1 Main Ass'y Exploded view	page(8-2)
8.2 OPE & Platen Cover Ass'y (1) Exploded view	page(8-6)
OPE & Platen Cover Ass'y (2) Exploded view	page(8-9)
8.3 DADF Assembly Exploded view	page(8-12)
8.4 Platen Cover Ass'y Exploded view	page(8-14)
8.5 DADF SUB Ass'y Exploded view	page(8-16)
8.6 Side Cover Ass'y Exploded view	page(8-19)
8.7 Cassette Ass'y Exploded view	page(8-21)
8.8 Exit Ass'y Exploded view	page(8-23)
8.9 Feeder Ass'y Exploded view	page(8-25)
8.10 MP Ass'y Exploded view	page(8-27)
8.11 Base Frame Exploded view	page(8-29)
8.12 Pick-up Ass'y Exploded view	page(8-31)
8.13 Drive Ass'y Exploded view	page(8-33)
8.14 Main Frame Ass'y Exploded view	page(8-35)
8.15 FuserAss'y Exploded view	page(8-37)
8.16 SCF Exploded view	page(8-39)

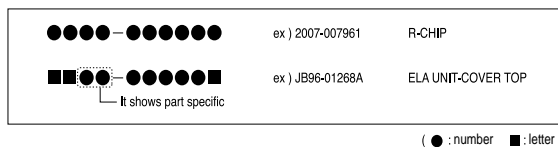
- Exploded drawings and service parts lists are given for items which may be expected to have a higher failure rate.
- Where a failure occurs you can identify the part in the exploded diagram and, using the parts cross reference number, refer to the appropriate parts list to identify the part number.

Note : Parts numbers given here are correct at the time of publication.
When ordering parts please use the on-line ordering system to check if there have been any changes to part numbers.

Part Number & Description format.

Part numbers and descriptions are defined according to a company standard. The information below will help you to understand the part number format and assist when ordering spare parts.

- There are two types of Part number format.



Type 1 : This format is used throughout Samsung on all product ranges.
Typically it is used for small components and electronic parts.

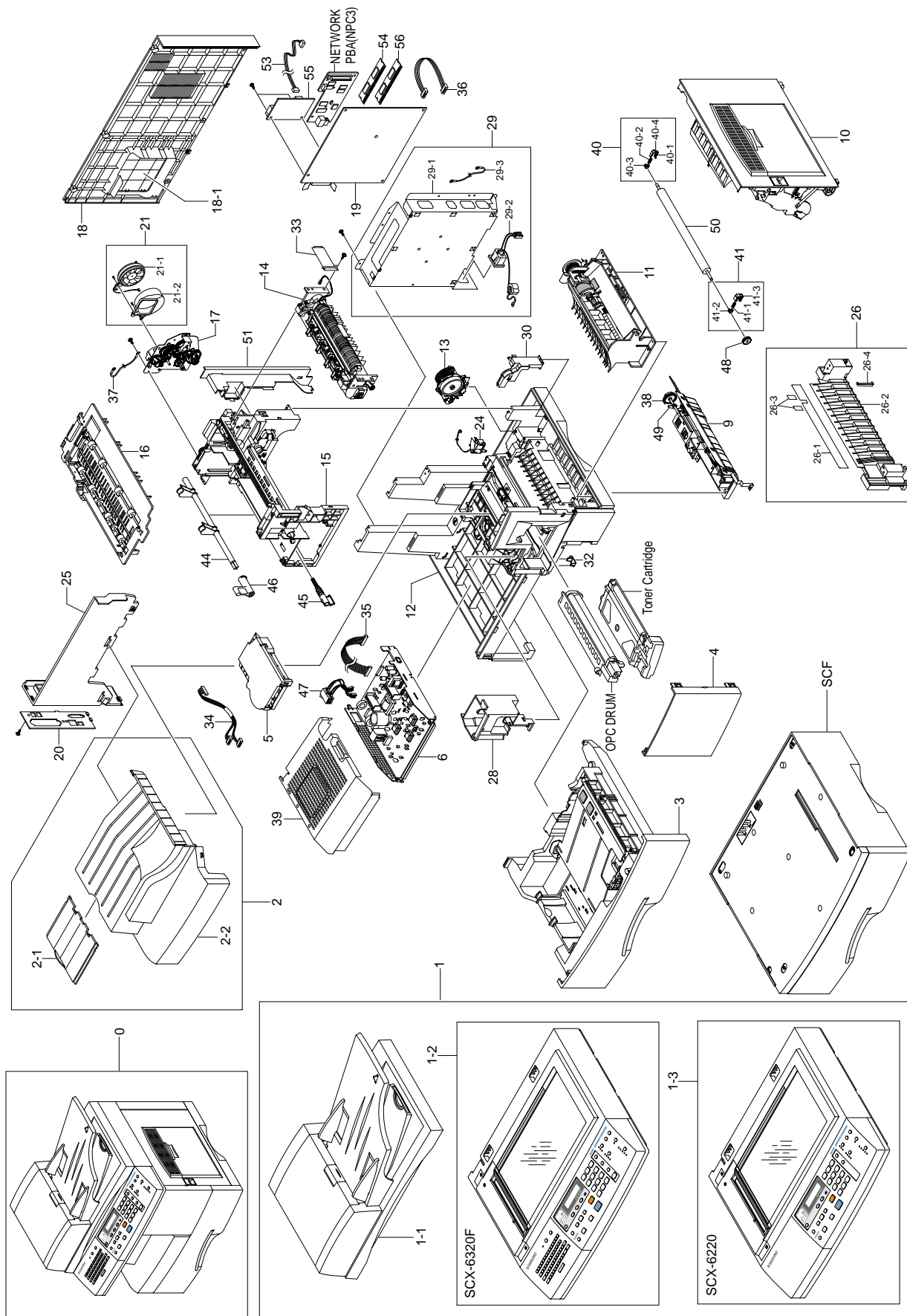
Type 2 : This format is controlled by individual Samsung Divisions and is used on specific products, typically for mechanical parts. Type 2 format part numbers fall into 2 categories:

- **A/S privately used part :** It is only used for A/S .
- **Ass'y part :** Assemblies consisting of 2 or more parts. Also used for Service manuals, user guides and diagrams.

• Ass'y parts and A/S privately used Parts can be distinguished by the part Code and Description. They are always Type 2 format. The 2 leading characters indicate private or assembly parts.

DIVISION	PART CODE	DESCRIPTION
A/S Private	**81-***** (JB81-00039A)	AS-***** (AS-USE)
ASSY Part	**75-***** (JB75-00068A)	MEC-***** (MEC-CHUTE)
ASSY Part	**92-***** (JB92-01131A)	PBA ***** (PBA MAIN-CONTROLLER)
ASSY Part	**97-***** (JB97-01089A)	MEA ***** (MEA UNIT-PULLEY IDLE)

8.1 Main Assembly



Main Assembly Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	SET	SCX-6320F			
	SET	SCX-6220			
1	ELA HOU-SCANNER ASS'Y	JC96-03165B	1	O	SCX-6320F
	ELA HOU-SCANNER ASS'Y	JC96-03217B	1	O	SCX-6220
1-1	ELA HOU-DADF	JC96-02943A	1	O	
1-2	ELA HOU-PLATEN	JC96-03164B	1	X	SCX-6320F
1-3	ELA HOU-PLATEN	JC96-03207B	1	X	SCX-6220
2	MEA UNIT-COVER PA EXIT ASS'Y	JC97-01556B	1	O	
2-1	PMO-TRAY EXTENTION MP NE	JC72-00354B	1	O	
2-2	PMO-COVER PAPER EXIT	JC72-00786B	1	O	
3	MEA UNIT-CASSETTE	JC97-01736A	1	O	USA Ver.
	MEA UNIT-CASSETTE	JC97-01736B	1	O	Europe Ver.
4	MEA UNIT-COVER FRONT ASS'Y	JC97-01572B	1	O	
5	UNIT-LSU	JC59-00014C	1	O	
6	PBA POWER SMPS_110V	JC44-00065A	1	O	110V
	PBA POWER SMPS_220V	JC44-00066A	1	O	220V
9	ELA HOU-PICK UP	JC96-02715B	1	O	
10	ELA HOU-SIDE COVER ASS'Y	JC96-02183C	1	O	
11	ELA HOU-MP ASS'Y	JC96-02182A	1	O	
12	ELA HOU-BASE FRAME ASS'Y	JC96-02958A	1	O	SCX-6320F
	ELA HOU-BASE FRAME ASS'Y	JC96-02958B	1	O	SCX-6220
13	MEA UNIT-FEED ROLLER	JC97-01850A	1	O	
14	ELA HOU-FUSER(110V)E-COIL	JC96-03021A	1	O	110V
	ELA HOU-FUSER(220V)E-COIL	JC96-03022A	1	O	220V
15	ELA HOU-FRAME MAIN ASS'Y	JC96-02959A	1	O	
16	MEC-UNIT-EXIT ASS'Y	JC97-01643B	1	O	
17	ELA HOU-ENGINE DRIVE(MCK2)	JC96-02957A	1	O	
18	MEA UNIT-REAR COVER	JC97-01851A	1	O	
18-1	COVER MAIN REAR	JC63-00191A	1	O	
18-2	LABEL-GUIDE DIMM	JC68-01354A	1	X	
19	PBA MAIN-MFP	JC92-01482B	1	O	SCX-6320F
	PBA MAIN COPLER	JC92-01483B	1	O	SCX-6220
20	COVER-M PANNEL MFP	JC63-00539A	1	O	SCX-6320F
	COVER-M PANNEL MFP DOM	JC63-00539B	1	O	SCX-6220
21	ELA HOU-DUCT FAN	JC96-02311A	1	O	
21-1	FAN-DC	JC31-00012A	1	O	
21-2	PMO-DUCT FAN	JC72-00807A	1	O	
24	SOLENOID-PICK UP	JC33-00007A	1	O	
25	PMO-COVER EXIT REAR	JC72-00790A	1	O	

Main Assembly Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
26	MEA UNIT GUIDE CST PA ASS'Y	JC97-01624A	1	O	
26-1	PMO-SHEET GUIDE PAPER	JC72-00836A	1	O	
26-2	PMO-GUIDE CASSETTE RAIL	JC72-00791A	1	O	
26-3	SHEET FEED	JC63-00078A	2	X	
26-4	IPR-GUIDE CST PAPER	JC70-00244A	1	O	
28	PMO-DUMMY BASE FRAME	JC72-00789A	1	O	
29	ELA HOU-SHIELD MAIN LOWER	JC96-02962A	1	O	
29-1	SHIELD-P_MAIN LOWER	JC63-00316A	1	X	
29-2	CBF HARNESS-INLET	JC39-00186A	1	O	
29-3	CBF HARNESS-LIU GND	JC39-00103A	1	O	
30	PMO-COVER FEED AY	JC72-00801A	1	O	
32	PMO-GUIDE PAPER OUT	JC72-00835A	1	O	
33	COVER SHEET CONNECTOR	JC63-00072A	1	O	
34	CBF HARNESS-LSU	JC39-00336A	1	O	
35	CBF HARNESS SMPS	JC39-00339A	1	O	
36	CBF HARNESS-LIU	JC39-00347A	1	O	
37	CBF HARNESS-LIU GND	JB39-00103A	2	O	
38	GEAR-PICK_UP	JC66-00335A	1	O	
39	IPR-SHIELD SMPS UPPER	JC70-00248A	1	O	
40	MEA UNIT-HOLD GEAR ASSY	JC97-01573A	1	O	
40-1	SPRING ETC-TRR	JC61-70906A	1	O	
40-2	PMO-BUSH	JC72-40228A	1	O	
40-3	PMO-HOLDER GEAR TR	JC72-00884A	1	O	
40-4	PMO-HOLDER GND TR	JC72-00883A	1	O	
41	MEA UNIT-HOLD GND ASSY	JC97-01574A	1	O	
41-1	SPRING ETC-PLATE TR	JC61-70203A	1	X	
41-2	SPRING ETC-TR_L	JC61-70961A	1	O	
41-3	PMO-BUSH	JC72-40228A	1	O	
42	SUPPORTER	6103-001048	2	O	
43	PMO-BEARING SHAFT	JC72-41191A	1	O	
41	MEA UNIT-HOLD GEAR ASSY	JC97-01573A	1	O	
41-1	SPRING ETC-TRR	JC61-70906A	1	O	
41-2	PMO-BUSH	JC72-40228A	1	O	
41-3	PMO-HOLDER GEAR TR	JC72-00884A	1	O	
42	SUPPORTER	6103-001048	2	O	
43	PMO-BEARING SHAFT	JC72-41191A	1	O	
44	PMO-CAM JAM REMOVE	JC72-00799A	1	O	
45	PMO-LOCKER DEVE	JC72-00805A	1	O	
46	PMO-LEVER JAM REMOVE	JC72-00804A	1	O	

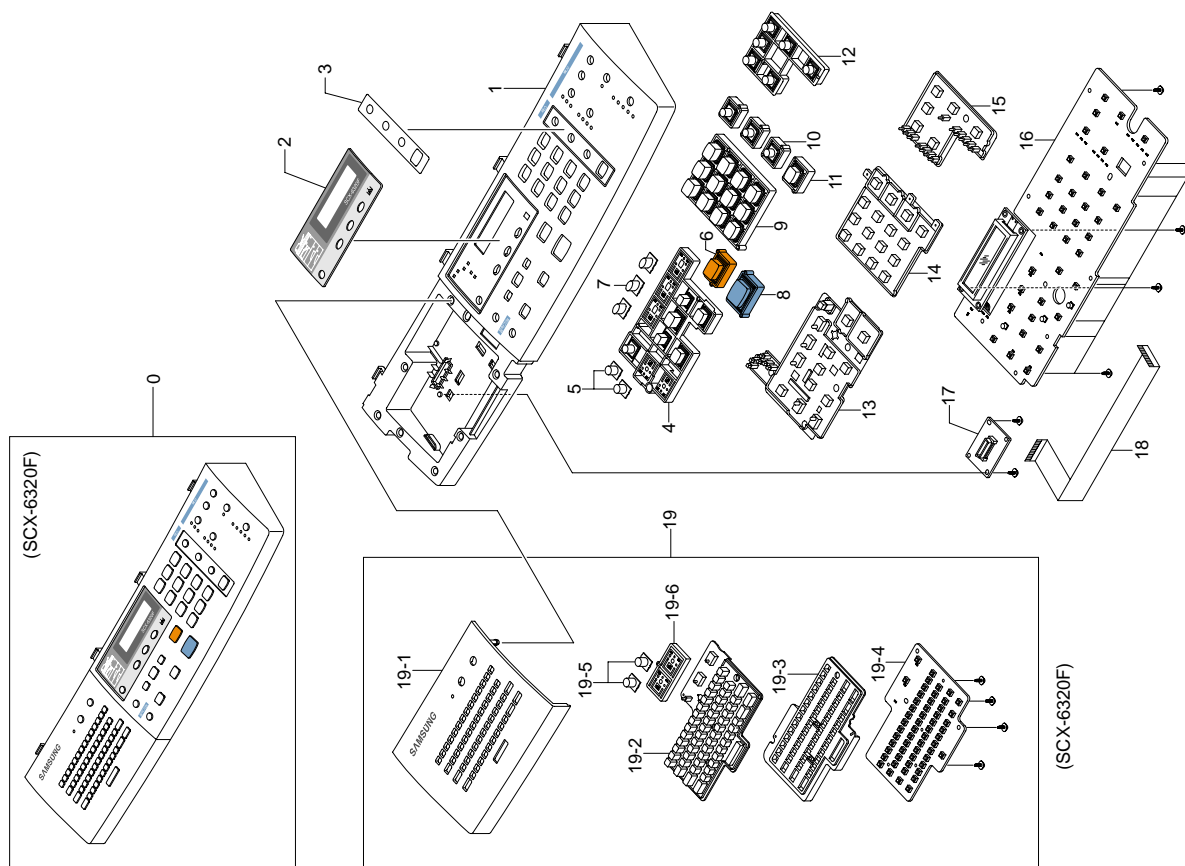
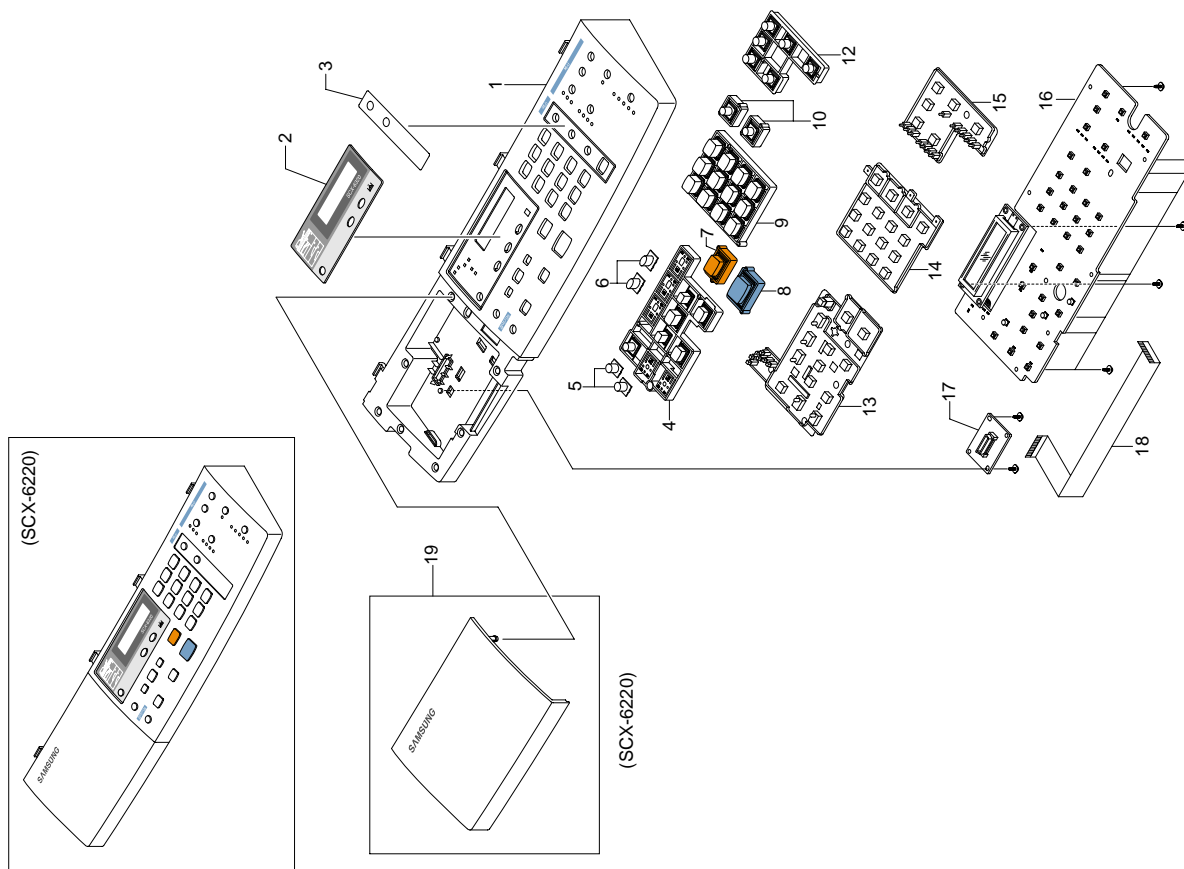
Main Assembly Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
47	CBF POWER STITCH GRAY	JC39-00055B	1	O	
48	GEAR TRANSFER	JC66-40947A	1	O	
49	PMO-BEARING SHAFT	JC72-41191A	2	O	
50	MEC-TRANSFER-ROLLER	JC75-00148A	1	O	
51	COVER BRACKET MOTOR	JC72-00834A	1	O	
53	CBF HARNESS-LIU	JC39-00347A	1	O	
54	PBA SUB-SDRAM DIMM (16MB)	JC92-01405F	1	O	SCX-6320F
55	PBA SUB-LIU	JC92-01587A	1	O	U.S.A, G4
	PBA SUB-LIU	JC92-01587B	1	O	U.K, G1
	PBA SUB-LIU	JC92-01587C	1	O	Russia, G2
	PBA SUB-LIU	JC92-01587D	1	O	Poland, G3
56	PBA ETC-PS-DIMM	JC92-01580A	1	O	SCX-6320F
58	COVER REAR DUMMY	JC63-00192A	1	O	

8.2 OPE & Platen Cover Ass'y (1)



OPE & Platen Cover Ass'y Exploded View & Parts List(1)

SA : Service Available

O : Service available X : Service not available

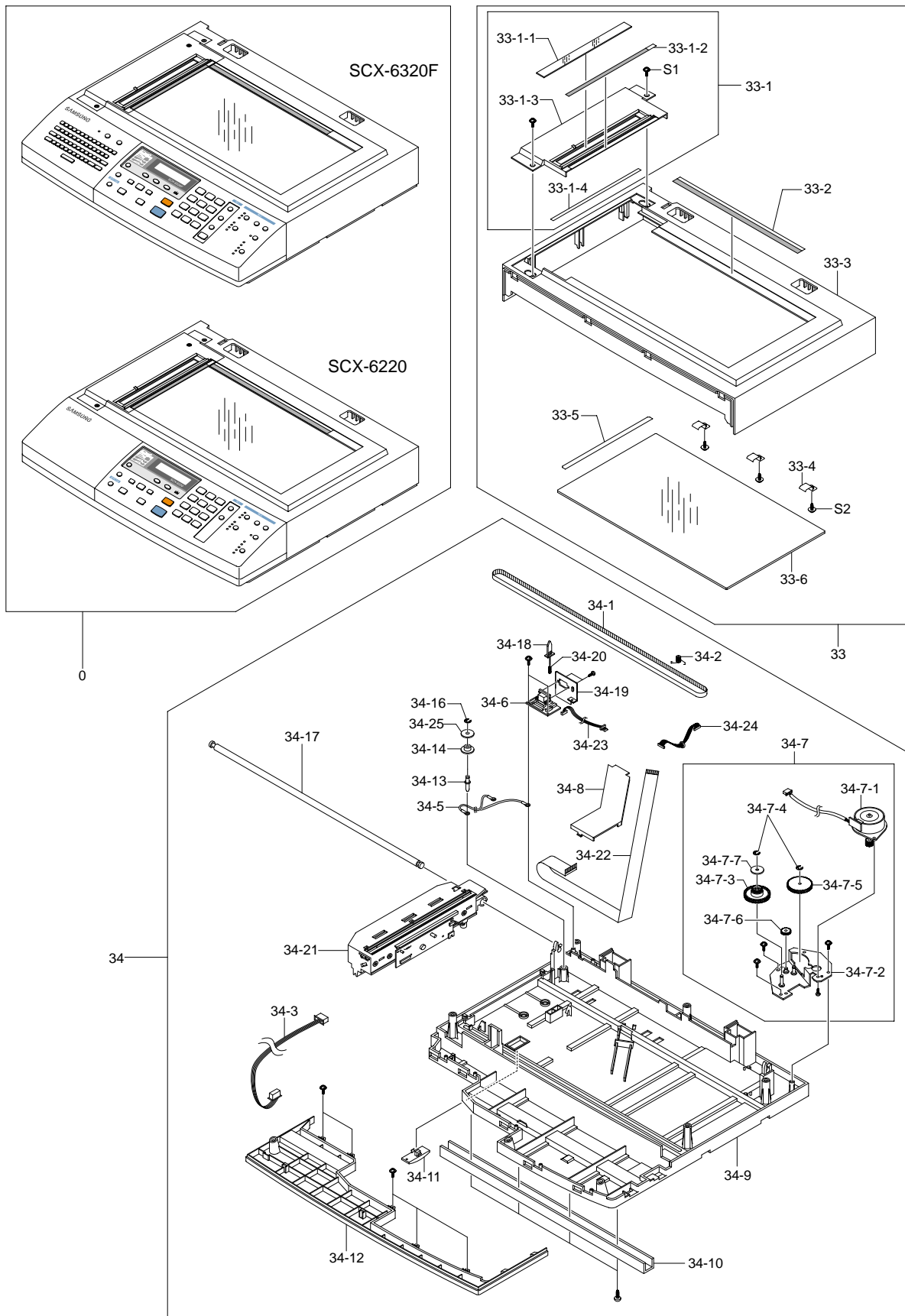
SCX-6320F

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-OPE COVER_MC2	JC96-03166B	1	O	
1	COVER-M_OPE DOM	JC63-00536B	1	X	
2	WINDOW-LCD A	JC64-00159B	1	O	
3	SHEET-PHONEBOOK	JC63-00534B	1	X	
4	KEY-M-ENTER DOM	JC64-00164A	1	X	
5	INDICATOR-M-TONER SAVE	JC64-00168A	2	X	
6	KEY-M-STOP DOM	JC64-00162A	1	X	
7	INDICATOR-M-COPY DOM	JC64-00167A	3	X	
8	KEY-M-START DOM	JC64-00161A	1	X	
9	KEY-M-TEL DOM	JC64-00165A	1	X	
10	KEY-M-PAUSE DOM	JC64-00169A	3	X	
11	KEY-M-HO DIAL DOM	JC64-00170A	1	X	
12	KEY-M-DUPLEX DOM	JC64-00163A	1	X	
13	RUBBER-ENTER DOM	JC73-00196A	1	O	
14	RUBBER-TEL DOM	JC73-00197A	1	O	
15	RUBBER-DUPLEX DOM	JC73-00198A	1	O	
16	PBA SUB-OPE_SEC	JC92-01552B	1	O	
17	PBA SUB-OPE_JOINT	JC92-01553B	1	O	
18	CBF SIGNAL-OPE_SEC	JC39-00392A	1	X	
19	ELA HOU-EMAIL(MC2)	JC96-03163A	1	X	
19-1	COVER-M_EMAIL DOM	JC63-00538A	1	X	
19-2	RUBBER-KEY BOARD DOM	JC73-00195A	1	O	
19-3	PLATE-M-KEY BOARD DOM	JC61-00971A	1	X	
19-4	PBA SUB-EMAIL_SEC	JC92-01557B	1	O	
19-5	INDICATOR-M-TONER SAVE	JC64-00168A	2	X	
19-6	KEY-M-NETWORK DOM	JC64-00166A	1	X	
S	SCREW-TAPTITE	6003-000196	12	X	

SCX-6220

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-OPE_2IN1	JC96-03208B	1	X	
1	COVER-M_OPE DOM	JC63-00556B	1	X	
2	WINDOW-LCD B	JC64-00160B	1	O	
3	SHEET-SUPPRESS	JC63-00535B	1	X	
4	KEY-M-ENTER DOM	JC64-00164A	1	X	
5	INDICATOR-M-TONER SAVE	JC64-00168A	2	X	
6	INDICATOR-M-COPY DOM	JC64-00167A	2	X	
7	KEY-M-STOP DOM	JC64-00162A	1	X	
8	KEY-M-START DOM	JC64-00161A	1	X	
9	KEY-M-TEL DOM	JC64-00165A	1	X	
10	KEY-M-PAUSE DOM	JC64-00169A	2	X	
12	KEY-M-DUPLEX DOM	JC64-00163A	1	X	
13	RUBBER-ENTER DOM	JC73-00196A	1	O	
14	RUBBER-TEL DOM	JC73-00197A	1	O	
15	RUBBER-DUPLEX DOM	JC73-00198A	1	O	
16	PBA SUB-OPE_SEC	JC92-01552B	1	O	
17	PBA SUB-OPE_JOINT	JC92-01553B	1	O	
18	CBF SIGNAL-OPE_SEC	JC39-00392A	1	X	
19	COVER-M-DUMMY DOM	JC63-00537A	1	X	
S	SCREW-TAPTITE	6003-000196	12	X	

8.2 OPE & Platen Cover Ass'y (2)



OPE & Platen Cover Ass'y Exploded View & Parts List(2)

SA : Service Available
 O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-PLATEN ASS'Y	JC96-03164B	1	X	SCX-6320F
	ELA HOU-PLATEN_21N1	JC96-03207B	1	X	SCX-6220
33	ELA HOU-SCAN UPPER	JC96-02712B	1	O	
33-1	A/S MATERIAL-DUMMY UPPER ASS'Y	JC81-00426B	1	O	
33-1-1	MCT-GLASS ADF	JC74-00019A	1	O	
33-1-2	LABEL(L)-REGISTRATION EDGE (L)	JB68-00469A	1	O	
33-1-3	PMO-DUMMY UPPER	JC72-00759B	1	O	
33-1-4	SHEET-DUMMY UPPER	JC63-00074A	1	O	
33-2	PPR-REGISTRATION EDGE(F)	JC72-00809B	1	O	
33-3	PMO-COVER SCAN UPPER	JC72-00758A	1	O	
33-4	IPR-HOLDER GLASS	JB70-00148A	3	O	
33-5	LABEL(P)-SHEET SHADING	JB68-00749A	1	X	
33-6	MCT-GLASS SCANNER(LEGAL)	JC74-00018A	1	O	
34	ELA HOU-SCAN LOWER	JC96-02936A	1	O	
34-1	BELT-TIMING GEAR	6602-001090	1	O	
34-2	SPRING ETC-BELT	JB61-00059A	1	O	
34-3	CBF HARNESS-OPE	JC39-00340A	1	O	
34-5	CBF HARNESS-DRIVER GND	JB39-00065A	2	X	
34-6	PBA SUB-D_SUB	JC92-01555A	1	O	
34-7	ELA HOU-SCAN MOTOR	JC96-02751A	1	O	
34-7-1	MOTOR STEP-SCAN	JB31-00011A	1	O	
34-7-2	BRACKET-MOTOR PLATEN	JC61-00702A	1	X	
34-7-3	GEAR-TIMING	JC66-00531A	1	O	
34-7-4	RING-E	6044-000125	2	O	
34-7-5	GEAR-REDUCTION73/37	JC66-00530A	1	O	
34-7-6	GEAR-IDLE	JB66-00083A	1	O	
34-7-7	PMO-HOLDER BELT	JB72-00764A	1	O	
34-8	COVER-M-CCD CABLE	JC63-00158A	1	O	
34-9	COVER-SCAN LOWER(UMAX)	JC63-00157A	1	O	
34-10	IPR-CHANNEL BASE FRAME	JC70-00239A	2	O	
34-11	HOLDER-M-CCD(UMAX)	JC61-00703A	1	O	
34-12	PMO-COVER DUMMY LOWER	JC72-00753A	1	O	
34-13	ICT-INSERT SHAFT	JB70-00154A	1	X	
34-14	PMO-PULLEY	JB72-00763A	1	O	
34-15	WASHER PRAIN	6003-001256	1	X	
34-16	RING-E	6044-000125	1	O	
34-17	SHAFT-CCD(UMAX)	JC66-00532A	1	O	
34-18	PMO-LEVER SENSOR	JC72-00755A	1	O	

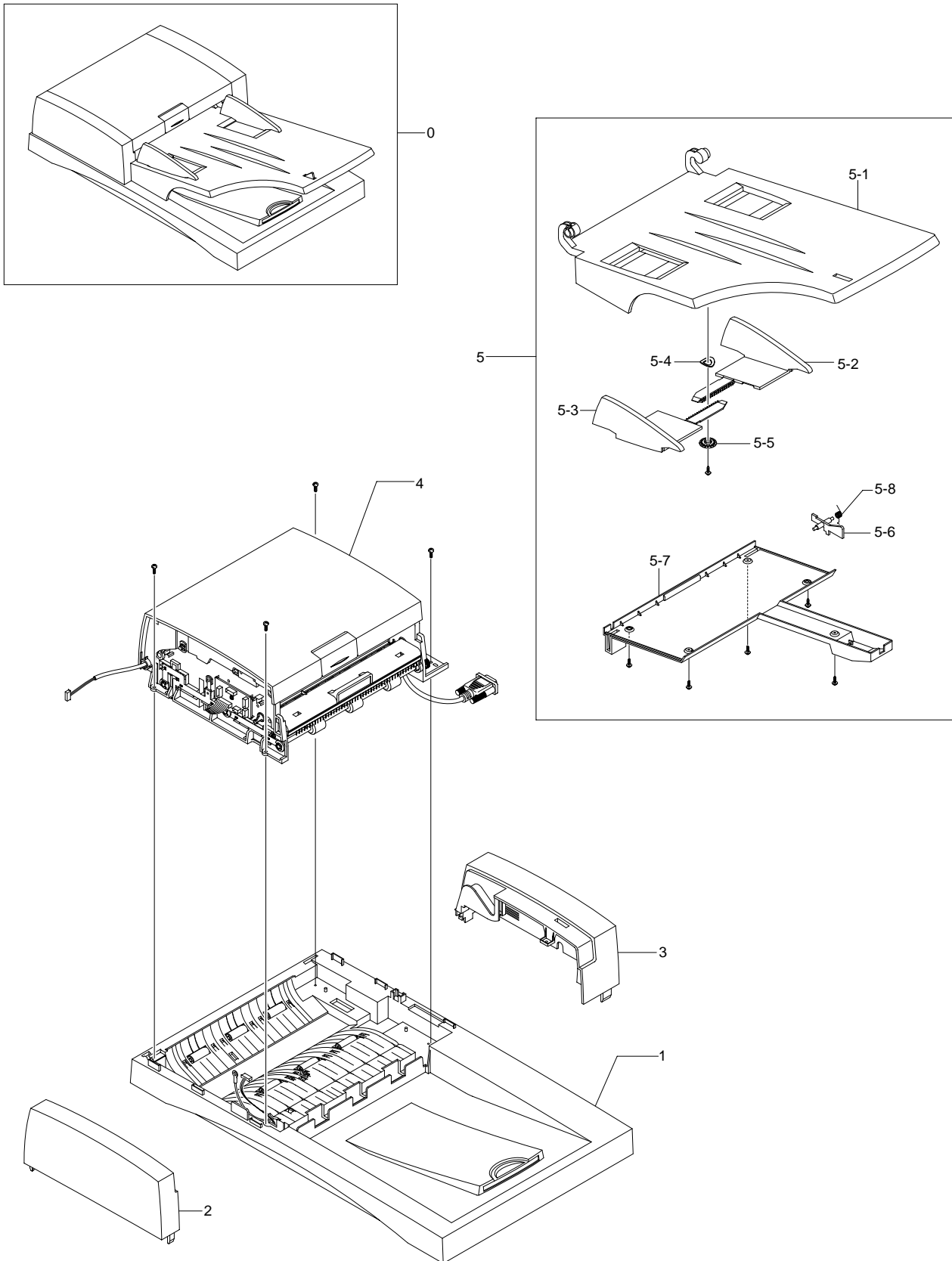
OPE & Platen Cover Ass'y Exploded View & Parts List(2)

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
34-19	IPR-BRK SCAN BD	JC70-00228A	1	O	
34-20	SPRING ETC-EXIT	JB61-70939A	1	X	
34-21	ELA HOU-CCD MODULE	JC96-02759B	1	O	
34-22	CBF SIGNAL-CCD FFC	JC39-00236A	1	O	
34-23	CBF HARNESS-SCAN MOTOR	JC39-00077A	1	O	
34-24	CBF HARNESS-SCAN DSUB	JC39-00338A	1	O	
34-25	PMO-HOLDER BELT	JB72-00764A	1	O	

8.3 DADF Ass'y



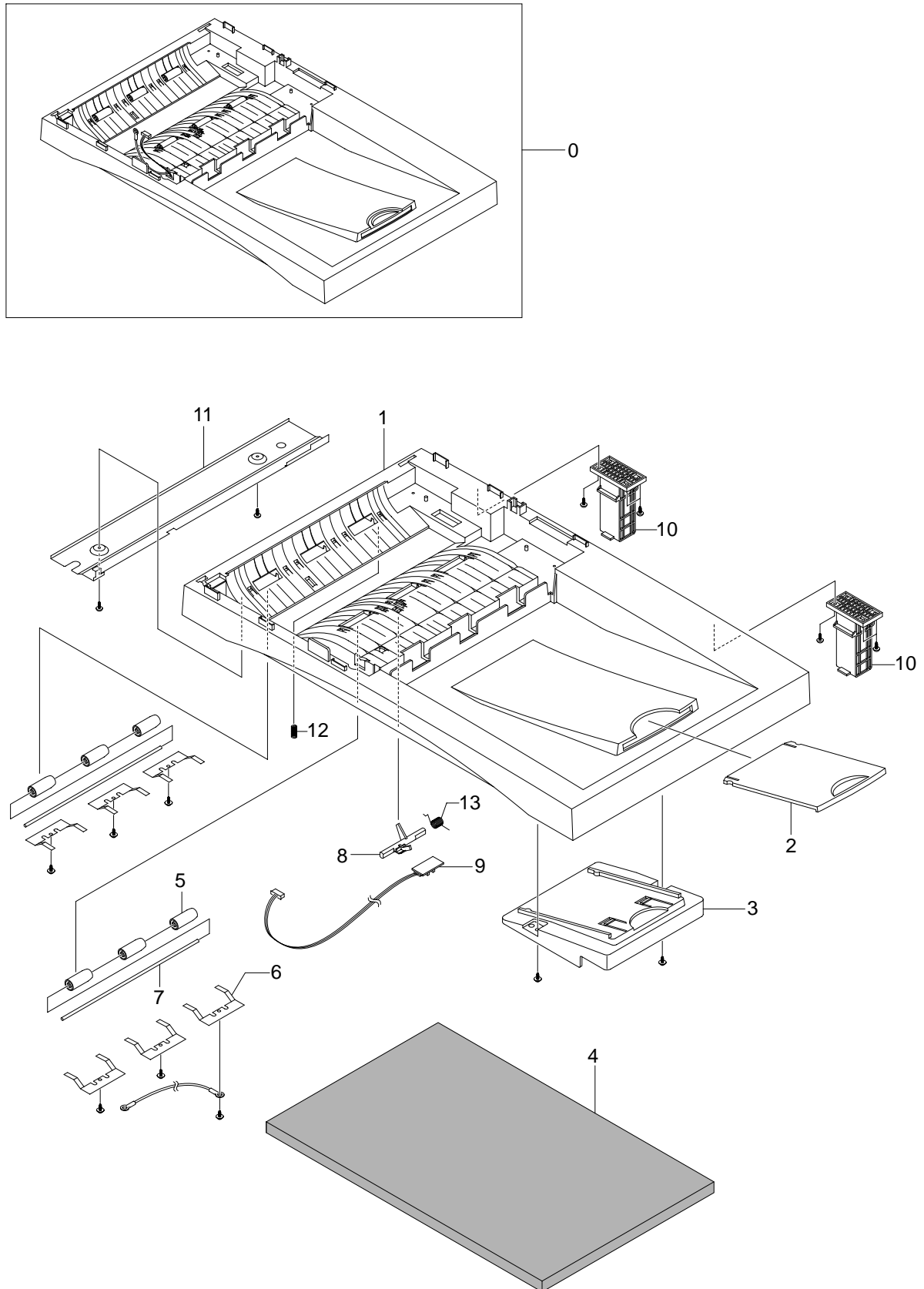
DADF Ass'y Parts List

SA : Service Available

O : Service available **X** : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-DADF	JC96-02943A	1	O	
1	ELA HOU-COVER PLATEN	JC96-02942A	1	O	
2	COVER-M FRONT	JC63-00200A	1	O	
3	COVER-M REAR	JC63-00201A	1	O	
4	ELA HOU-DADF_SUB	JC96-02973A	1	O	
5	MEA UNIT-TX STACKER	JC97-01840A	1	O	
5-1	PMO-TX STACKER	JC72-01253A	1	X	
5-2	GUIDE-M_DOC_LEFT	JC61-00739A	1	X	
5-3	GUIDE-M_DOC_RIGHT	JC61-00740A	1	X	
5-4	IPR-WASHER SPRING CU	JF70-10616A	1	O	
5-5	PMO-GEAR PINION	JF72-41354A	1	O	
5-6	PMO-ACTUATOR LENGTH	JC72-01250A	1	O	
5-7	PMO-TX STACKER LOWER	JC72-01254A	1	O	
5-8	SPRING ETC-TORSION DOC	JB61-00076A	1	O	

8.4 Platen Cover Ass'y



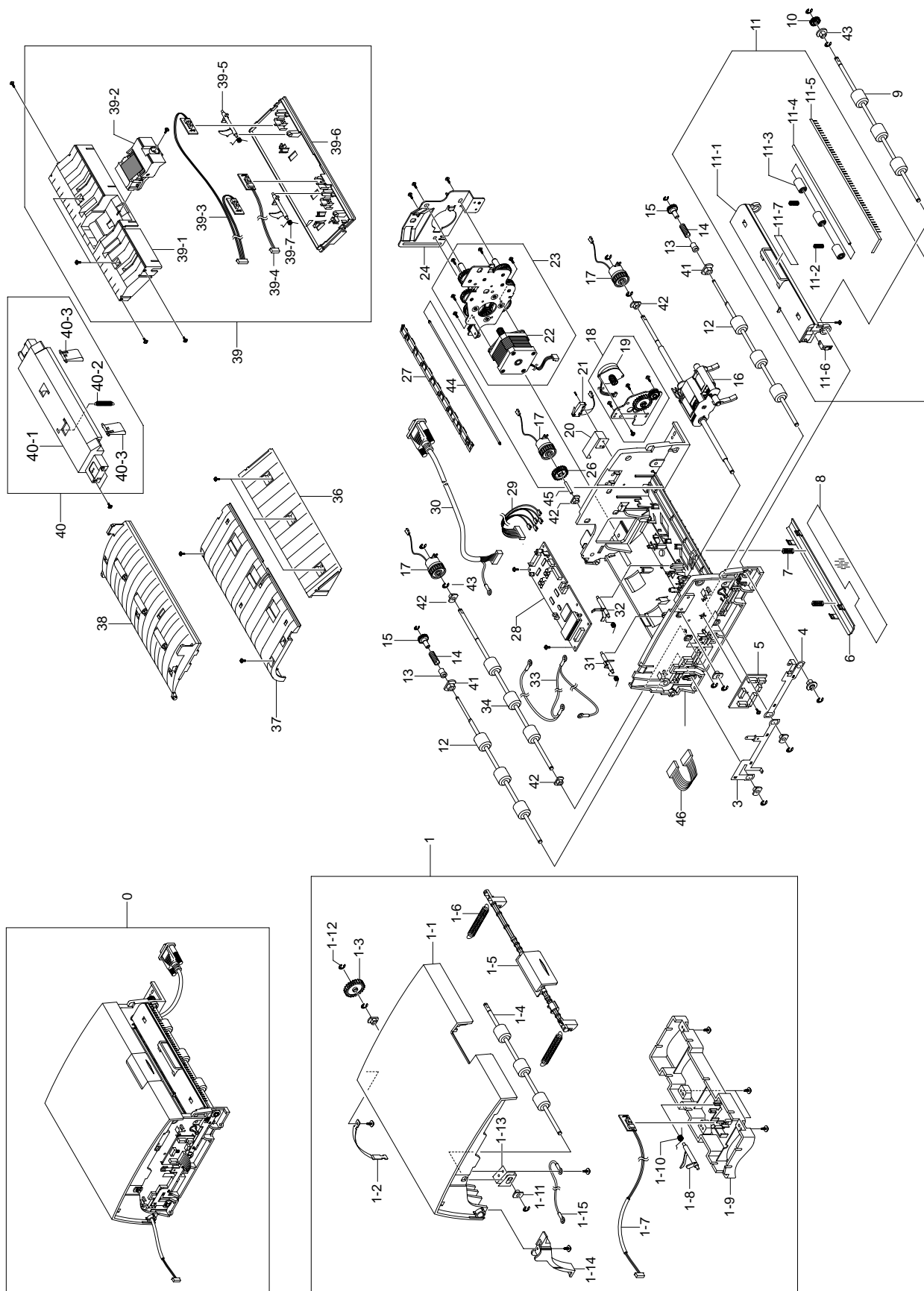
Platen Cover Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-COVER PLATEN	JC96-02942A	1	O	
1	COVER-M PLATEN	JC63-00198A	1	X	
2	PMO-EXTENTION PLATEN	JC72-01251A	1	X	
3	GUIDE-M EXTENTION	JC61-00746A	1	X	
4	PPR-SPONGE SHEET	JC72-00751A	1	O	
5	PMO-ROLL PINCH	JG72-40663A	6	O	
6	IPR-P_PINCH(SCAN)	JC70-00468A	6	X	
7	SHAFT-PINCH	JC66-00659A	2	O	
8	PMO-ACTUATOR SENSOR SCAN	JC72-00746A	1	O	
9	PBA-SUB-GATE	JC92-01562A	1	O	
10	MEA UNIT-HINGE(MCK2)	JC97-01839A	2	O	
11	PLATE-P-DUMMY PLATEN	JC61-00819A	1	O	
12	SPRING ETC-CHARGE	JC61-70925A	1	X	
13	SPRING ETC-TORSION DOC	JB61-00076A	1	O	

8.5 DADF SUB Ass'y



DADF SUB Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-DADF SUB	JC96-02973A	1	O	
1	MEA UNIT-COVER OPEN	JC97-01844A	1	O	
1-1	COVER-M_OPEN	JC63-00195A	1	O	
1-2	PMO-STOPPER EXIT	JC72-41396B	1	O	
1-3	GEAR-DADF24(A)	JC66-00565A	1	O	
1-4	ROLLER-REGI	JC66-00587A	1	X	
1-5	PMO-LEVER OPEN	JC72-01256A	1	X	
1-6	"SPRING ETC-KNOCKUP,MP"	JC61-00483A	2	O	
1-7	PBA SUB-REGI	JC92-01561A	1	O	
1-8	PMO-ACTUATOR REGI	JC72-01261A	1	X	
1-9	COVER-M_SENSOR	JC63-00197A	1	O	
1-10	SPRING ETC-TORSION DOC	JB61-00076A	1	O	
1-11	BUSH-6D	JC61-00423A	2	O	
1-12	RING-E	6044-000125	3	O	
1-13	GROUND-P DUPLEX	JC63-00315A	1	X	
1-14	COVER-M-HARNESS	JC63-00408A	1	X	
1-15	CBF HARNESS-LIU GND	JB39-00103A	1	O	
2	GUIDE-SCAN	JC61-00738A	1	X	
3	GROUND-P_SCAN ROLLER	JC63-00249A	1	X	
4	GROUND-P_EXIT ROLLER	JC63-00250A	1	X	
5	PBA SUB-SENSOR_IF	JC92-01556A	1	O	
6	IPR-BRKT WHITE BAR	JC70-00225A	1	O	
7	SPRING ETC-WHITE BAR	JC61-00548A	2	O	
8	SHEET-GUIDE PAPER	JC63-00185A	1	X	
9	ROLLER-EXIT	JC66-00588A	1	O	
10	GEAR-EXIT31	JC66-00571A	1	X	
11	MEA UNIT-COVER EXIT	JC97-01841A	1	O	
11-1	COVER-M_EXIT	JC63-00196A	1	X	
11-2	SPRING ETC-WHITE BAR	JC61-00548A	2	O	
11-3	PMO-ROLLER IDLE SCAN	JC72-00906A	3	O	
11-4	SHAFT-EXIT IDLE	JC66-00661A	1	O	
11-5	MEC-BRUSH ANTISTATIC	JC75-00095A	1	O	
11-6	GROUND-P-EXIT COVER	JC63-00203A	1	X	
11-7	LABEL-COVER-EXIT	JC68-01244A	1	X	
12	ROLLER-SCAN	JC66-00585A	2	O	
13	PMO-BUSHING HOLDER	JG72-40732A	2	X	
14	SPRING ETC-CLUTCH	JC61-00062A	2	O	
15	GEAR DADF-SCAN31	JC66-00570A	2	X	

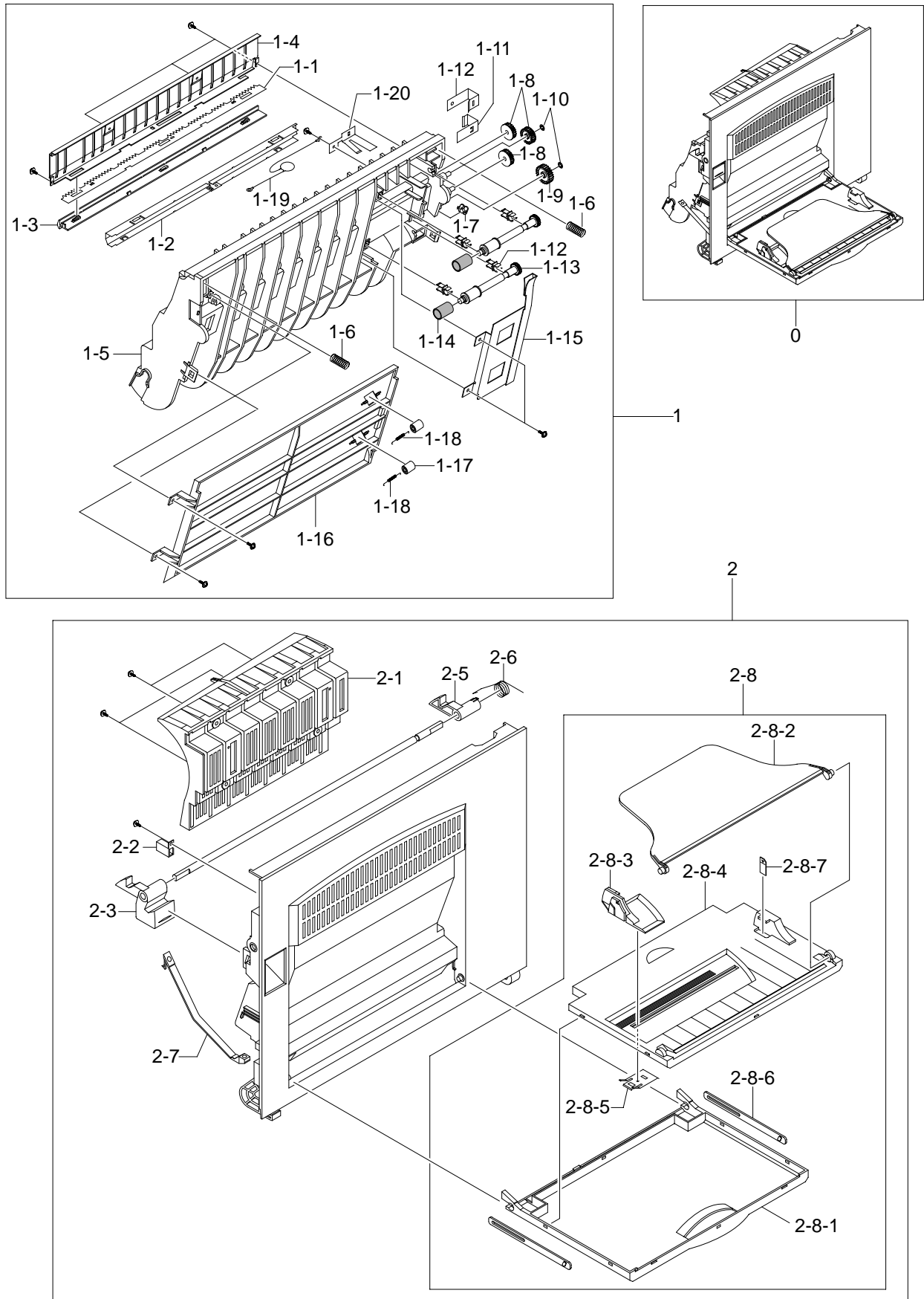
DADF SUB Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
16	MEA UNIT-PICK_UP	JC97-01848A	1	O	
17	MEP-CLUTCH SMALL	JC47-00003C	3	O	
18	ELA HOU-DUPLEX MOTOR	JC96-02940A	1	O	
19	MOTOR STEP-DUPLEX	JC31-00034A	1	O	
20	IPR-GUARD C/O S/W	JC70-00218A	1	O	
21	CBF HARNESS-COVER_OPEN	JC39-00332A	1	O	
22	MOTOR STEP-DADF	JC31-00033A	1	O	
23	ELA HOU-DADF MOTOR	JC96-02941A	1	O	
24	COVER-P GEAR	JC63-00307A	1	O	
26	GEAR-DADF24(A)	JC66-00565A	1	O	
27	PMO-GATE DUPLEX	JC72-01255A	1	X	
28	PBA SUB-DADF	JC92-01554A	1	O	
29	CBF HARNESS-CLUTCH IF	JC39-00327A	1	O	
30	CBF DSUB-CABLE_DADF	JC39-00359A	1	O	
31	PMO-ACTUATOR SCAN	JC72-01249A	1	O	
32	PMO-ACTUATOR DUPLEX	JC72-01263A	1	O	
33	CBF HARNESS-DADF GND	JC39-00334A	1	O	
34	ROLLER-DUPLEX	JC66-00589A	1	O	
36	GUIDE-M_DUPLEX_INNER	JC61-00737A	1	O	
37	GUIDE-M_DUPLEX_LOWER	JC61-00735A	1	O	
38	MEA UNIT-GUIDE DUPLEX	JC97-01843A	1	O	
39	MEA UNIT-GUIDE_PICK_UP	JC97-01847A	1	O	
39-1	GUIDE-M_PICK_UP_UPPER	JC61-00733A	1	X	
39-2	MEA UNIT-HOLDER ADF RUBBER	JC97-01846A	1	O	
39-3	PBA SUB-DOC_WIDTH	JC92-01560A	1	O	
39-4	PBA SUB-EXIT_OPEN	JC92-01564A	1	O	
39-5	PMO-ACTUATOR DOC	JC72-01248A	2	X	
39-6	GUIDE-M-PICK_UP_LOWER	JC61-00732A	1	X	
39-7	SPRING ETC-TORSION DOC	JB61-00076A	2	O	
40	MEA UNIT-SUPPORT PICK_UP	JC97-01845A	1	O	
40-1	SUPPORT-PICK-UP	JC61-00742A	1	X	
40-2	SPRING ETC-PICK-UP	JC61-00482A	1	O	
40-3	GUIDE-M-DOC SENSOR	JC61-00788A	2	X	
41	BUSH-10-D	JC61-00720A	2	X	
42	BUSH-6D	JC61-00423A	2	O	
43	BUSH-6D(L)	JC61-00884A	2	X	
44	SHAFT-GATE DUPLEX	JC66-00683A	1	X	
45	SHAFT-REGI	JC66-00662A	1	X	
46	CBF HARNESS-SENSOR_IF	JC39-00344A	1	O	

8.6 Side Cover Ass'y



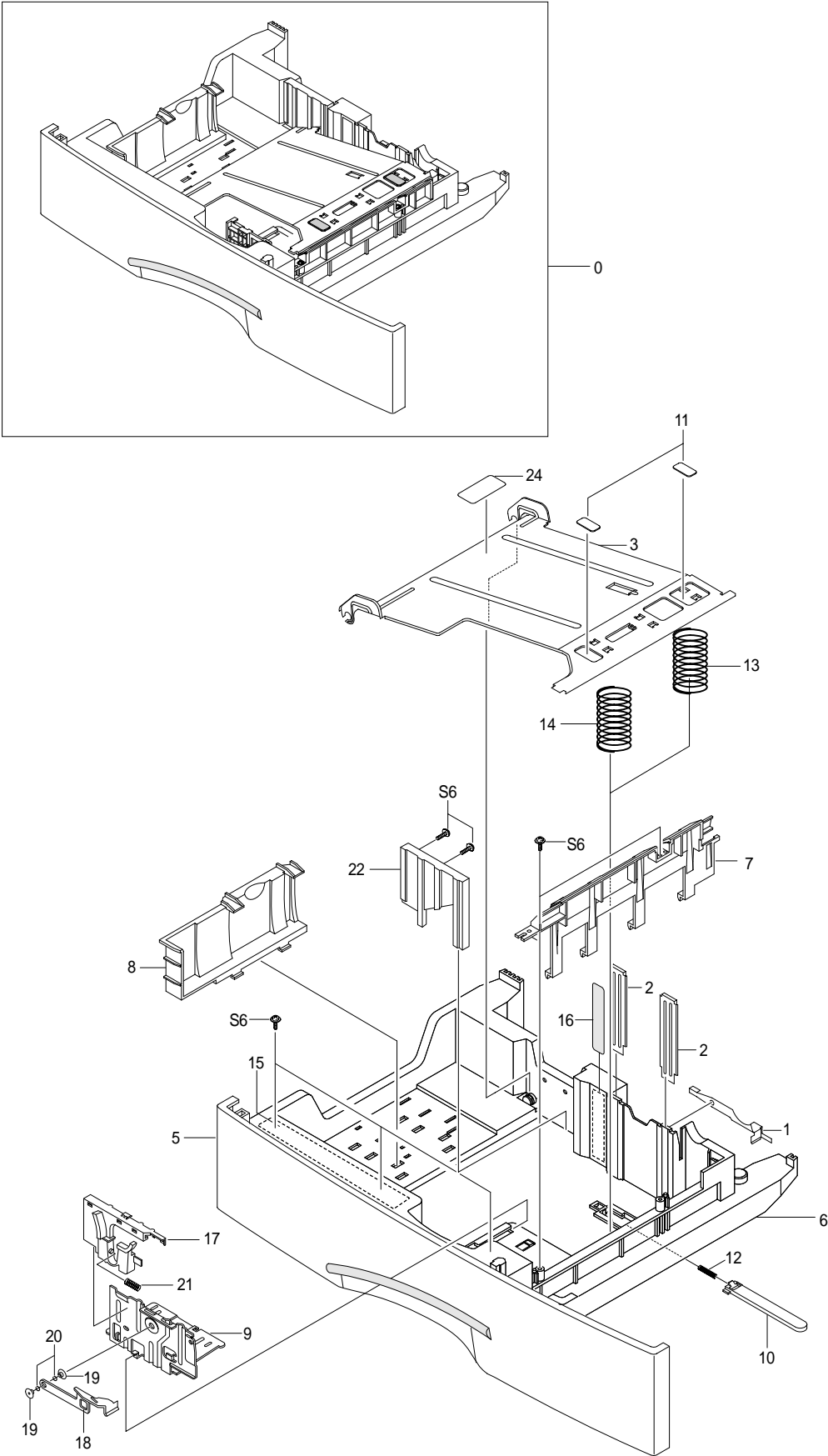
Side Cover Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-SIDE COVER ASS'Y	JC96-02183C	1	O	
1	MEA UNIT-DUPLEX	JC97-01578B	1	O	
1-1	IPR-PLATE SAW	JC70-10232D	2	O	
1-2	IPR-BRACKET GUIDE B	JC70-00234A	1	O	
1-3	PMO-HOLDER SAW	JC72-41213B	1	O	
1-4	IPR-BRACKET GUIDE A	JC70-00229A	1	O	
1-5	PMO-FEED FRAME	JC72-00731A	1	O	
1-6	SPRING-FEED	JC61-00478A	2	O	
1-7	PMO-BUSHING FEED	JC72-00730A	1	O	
1-8	GEAR-DUP IDLER 17	JC66-00341A	3	O	
1-9	GEAR-MP/DUP DRV	JC66-00346A	1	O	
1-10	RING-CS	6044-000001	2	X	
1-11	IPR-BRKT GROUND TR	JC70-00231A	1	O	
1-12	PMO-BUSHING TX(B4)	JG72-40744A	4	O	
1-12	IPR-BRKT GROUND A	JC70-00232A	1	O	
1-13	PMO-SHAFT DUP DRIVER	JC72-00764A	2	O	
1-14	RPR-RUBBER EXIT	JC73-10203A	2	O	
1-15	IPR-BRKT G DUP	JC70-00233A	1	O	
1-16	PMO-GP LOWER DP	JC72-00732A	1	O	
1-17	PMO-ROLLER_EXIT	JC72-40361A	2	X	
1-18	SPRING-FUSER EXIT	JC61-70976A	2	X	
1-19	CBF HARNESS-OPE GND	JC39-00036A	1	O	
1-20	IPR-BRKT GROUND B	JC70-00230A	1	O	
2	MEA UNIT-SIDE SUB	JC97-01909A	1	O	
2-1	PMO-GUIDE DP SIDE	JC72-00806A	1	O	
2-2	GUIDE SIDE PUSH	JC61-00919A	1	X	
2-3	PMO-LOCKER OPEN	JC72-00762B	1	O	
2-5	PMO-LOCKER SIDE R	JC72-00763A	1	O	
2-6	SPRING-LOCKER TORSION	JC61-00479A	1	O	
2-7	PMO-TIE STOPPER	JC72-00766A	2	O	
2-8	MEC UNIT-TRAY ASS'Y	JC97-01577B	1	O	
2-8-1	PMO-TRAY CASE, MP	JC72-00776A	1	O	
2-8-2	PMO-SIDE EXIT, MP	JC72-00778A	1	O	
2-8-3	PMO-SIDE GUIDE, MP	JC72-00547G	1	O	
2-8-4	PMO-TRAY COVER, MP	JC72-00777A	1	O	
2-8-5	IPR-GUIDE LATCH, MP	JB70-10906A	1	O	
2-8-6	PMO-TRAY LINK,MP	JC72-00857A	1	O	
2-8-7	LABEL(R)-HEIGHT,MP	JC68-00697A	1	X	

8.7 Cassette Ass'y



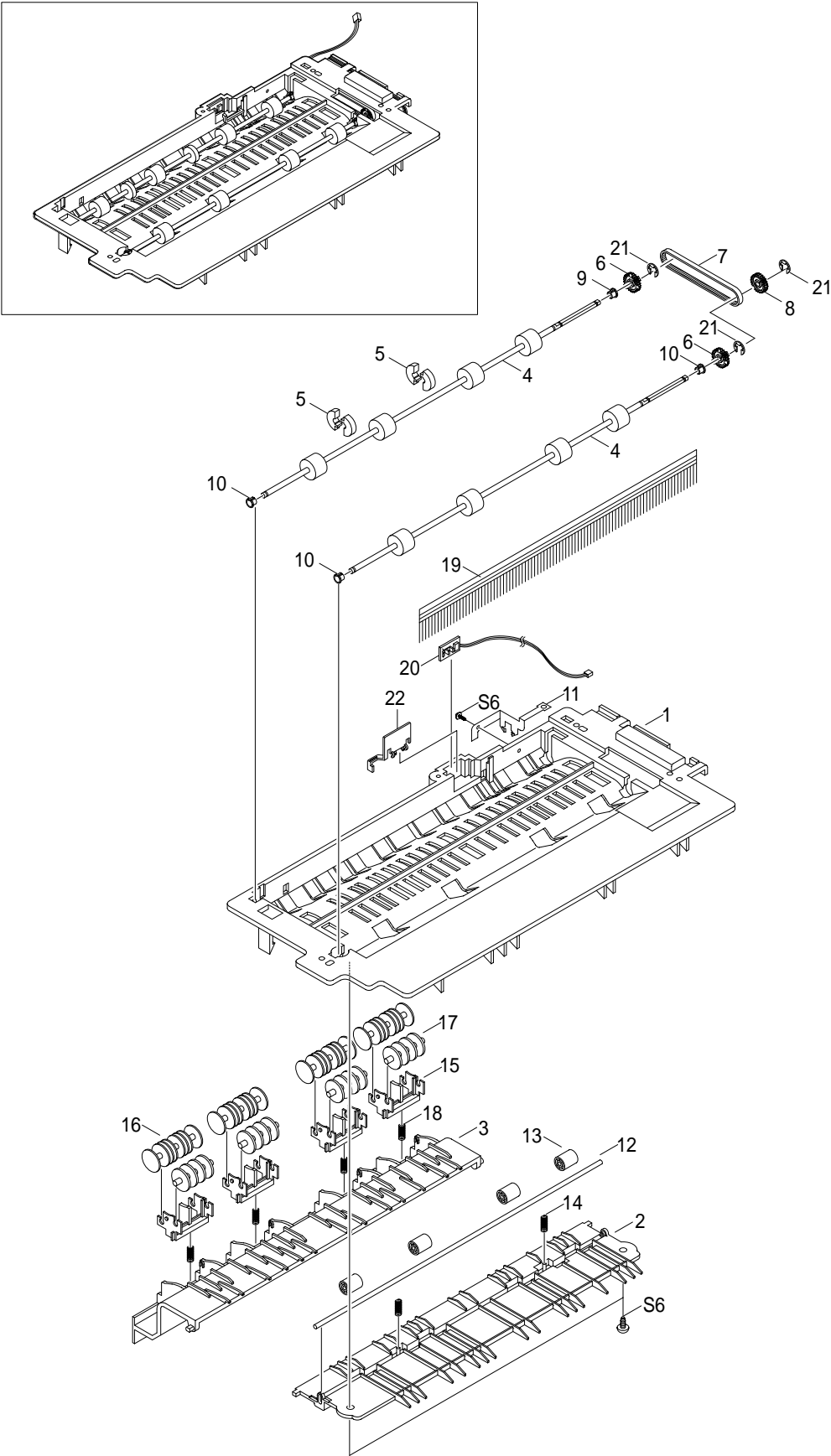
Cassette Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	MEA UNIT-CASSETTE	JC97-01736A	1	O	LETTER
	MEA UNIT-CASSETTE	JC97-01736B	1	O	A4
2	PLATE GUIDE PAPER	JC61-00831A	2	O	
3	IPR-PLATE K/UP	JC70-00221A	1	O	
5	PMO-COVER CASSETTE	JC72-00795A	1	O	
6	PMO-FRAME CASSETTE	JC72-00716A	1	X	
7	GUIDE FRONT CST PLUS	JC61-00825A	1	X	
8	PMO-GUIDE REAR	JC72-00717A	1	O	
9	GUIDE SIDE CST	JC61-00826A	1	O	
10	PMO-LOCKER PLATE	JC72-41210A	1	O	
11	PAD-CST PLUS	JC69-00474A	2	O	
12	SPRING-LOCKER PLATE	JG61-70531A	1	O	
13	SPRING CS RE	6107-001190	1	O	
14	SPRING CS FR	6107-001191	1	O	
15	LABEL(R)-INSTRUCTION CST PLUS	JC68-00692B	1	O	
16	LABEL(R)-HEIGHT CST	JC68-00709A	1	O	
17	GUIDE SIDE HANDLE	JC61-00824A	1	O	
18	IPR FINGER LEFT	JC70-00325A	1	O	
19	PMO-BUSHING FINGER, F	JC61-00653A	2	O	
20	WASHER PLAIN	6031-000023	2	X	
21	SPRING WHITE BAR	JC61-00548A	1	O	
22	GUIDE SUB WALL	JC61-00840A	1	X	

8.8 Exit Ass'y



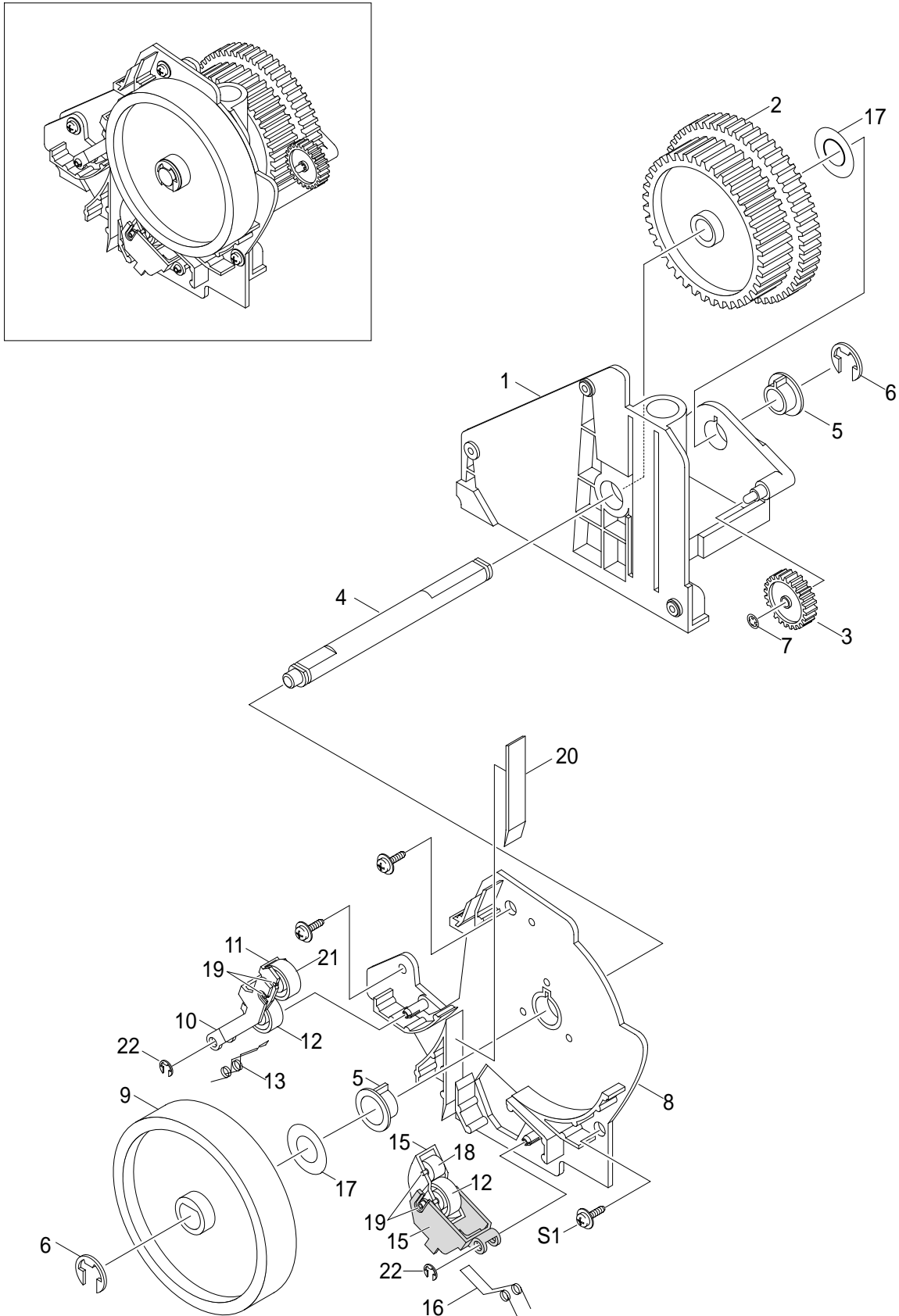
Exit Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	MEA UNIT-EXIT ASS'Y	JC97-01643B	1	O	
1	PMO-GUIDE-EXIT UPPER	JC72-00708A	1	O	
2	PMO-GUIDE-EXIT LOWER	JC72-00710A	1	O	
3	PMO-GUIDE-JAM REMOVE	JC72-00712A	1	O	
4	MEC-ROLLER EXIT DRVE	JC75-00166A	2	O	
5	PMO-ROLLER DECURL	JC72-00833A	4	O	
6	PMO-PULLEY DUPLEX	JC72-40980A	2	X	
7	BELT-TIMING GEAR	6602-001084	1	O	
8	GEAR-DUPLEX	JC66-40912A	1	O	
9	PMO-BEARING LARGE DP	JC72-00885A	3	O	
10	PMO-BEARING LARGE DP	JC72-40978A	1	O	
11	IPR-GROUND-EXIT	JC70-00252A	1	O	
12	SHAFT IDLE LOWER	JC66-00715A	1	X	
13	PMO-ROLLER_EXIT	JC72-40361A	4	X	
14	SPRING ETC-EXIT ROLL FD	JC61-70911A	2	O	
15	HOLDER-EXIT(MC)	JC61-00547A	4	X	
16	PMO-ROLLER FD F	JC72-41007A	4	O	
17	PMO-ROLLER FD R	JC72-41008A	4	O	
18	SPRING ETC-EXIT LOWER IDLE	JC61-00484A	4	O	
19	MEC-BRUSH ANTISTATIC	JC75-00095A	1	O	
20	PBA SUB-BIN_FULL_SEN.	JC92-01400A	1	O	
21	RING-C	6044-000159	3	X	
22	PMO-LEVER-STACKING	JC72-00709A	1	O	

8.9 Feeder Ass'y



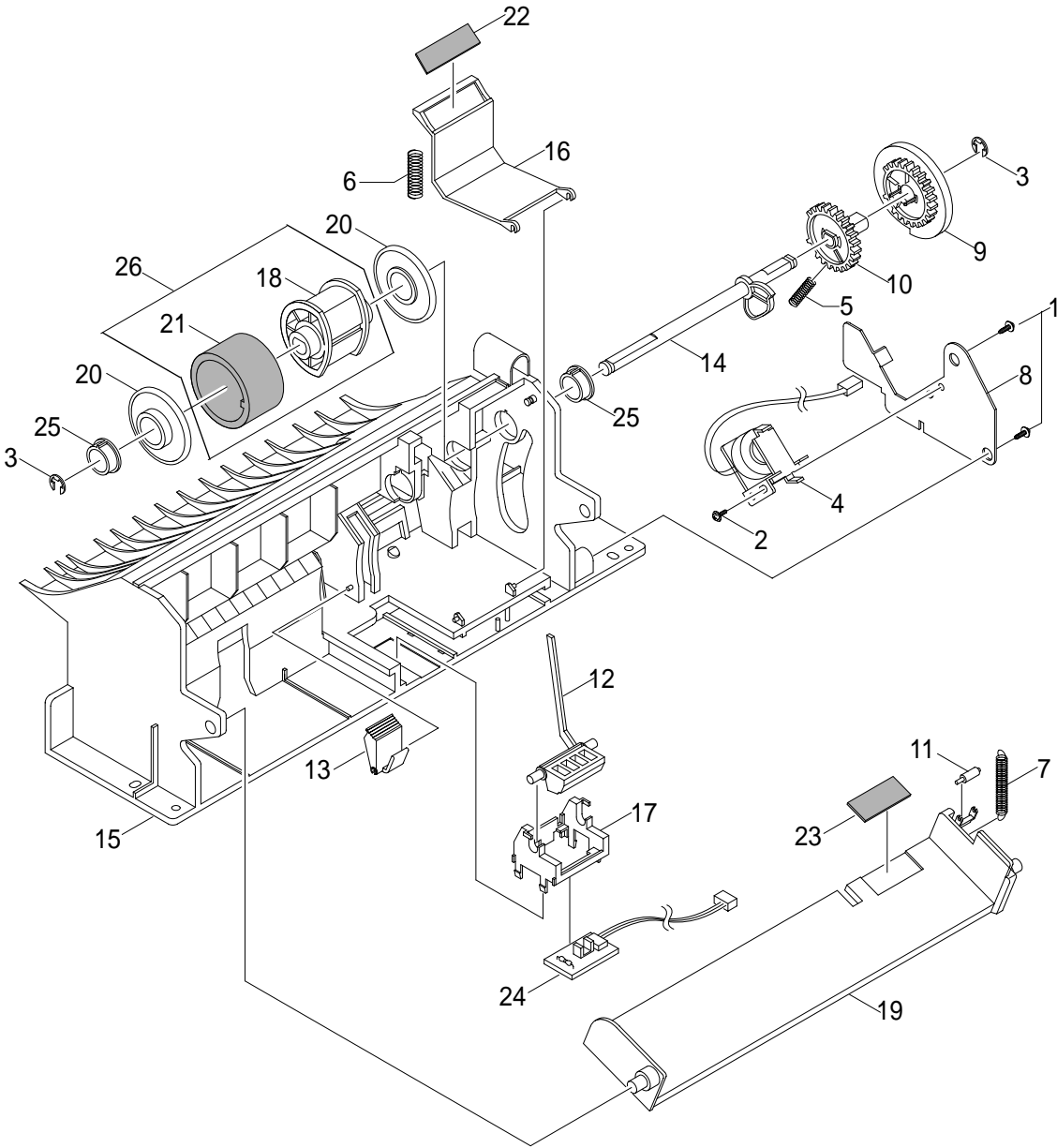
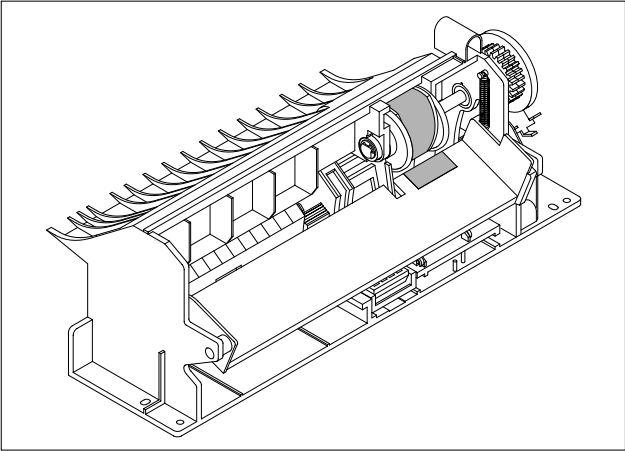
Feeder Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	MEA UNIT-FEED ROUER	JC97-01850A	1	O	
1	PMO-FRAME FEED	JC72-00821A	1	O	
2	GEAR-FEED	JC66-00332A	1	O	
3	GEAR-MP/DUP DRV	JC66-00346A	1	O	
4	ICT-SHAFT FEED	JC70-00267A	1	X	
5	PMO-BUSHING_P/U,MP	JC72-41364A	1	O	
6	RING-E	6044-000125	2	O	
7	RING-CS	6044-000001	1	X	
8	PMO-BRKT FEED	JC61-00849A	1	X	
9	PMO-ROLLER FEED	JC72-00727A	1	O	
10	PMO-HOLDER PINCH C	JC61-00830A	1	X	
11	PMO-HOLDER PINCH SUB	JC72-00725A	1	O	
12	PMO-ROLLER FEED L	JC72-40261A	1	O	
13	HOLDER PUSH FEED CST	JC61-00871A	1	X	
14	PMO-HOLDER PINCH M	JC72-00724A	1	O	
15	PMO-SUB HOLDER FEED	JC72-40266A	1	O	
16	SPRING-FEED MP	JC61-00481A	1	O	
17	WASHER-PLAIN	6031-000021	2	X	
18	PMO-ROLLER FEED S	JC72-40262A	1	O	
19	IPR-SHAFT FEED IDLER	JC70-10230A	4	O	
20	SHEET FEEDER	JC63-00259A	1	X	
21	PMO ROLLER PINCH FEED	JC72-01315A	2	X	
22	E-RING	6044-000159	2	X	
S1	SCREW-TAPTITE	6003-000196	3	X	

8.10 MP Ass'y



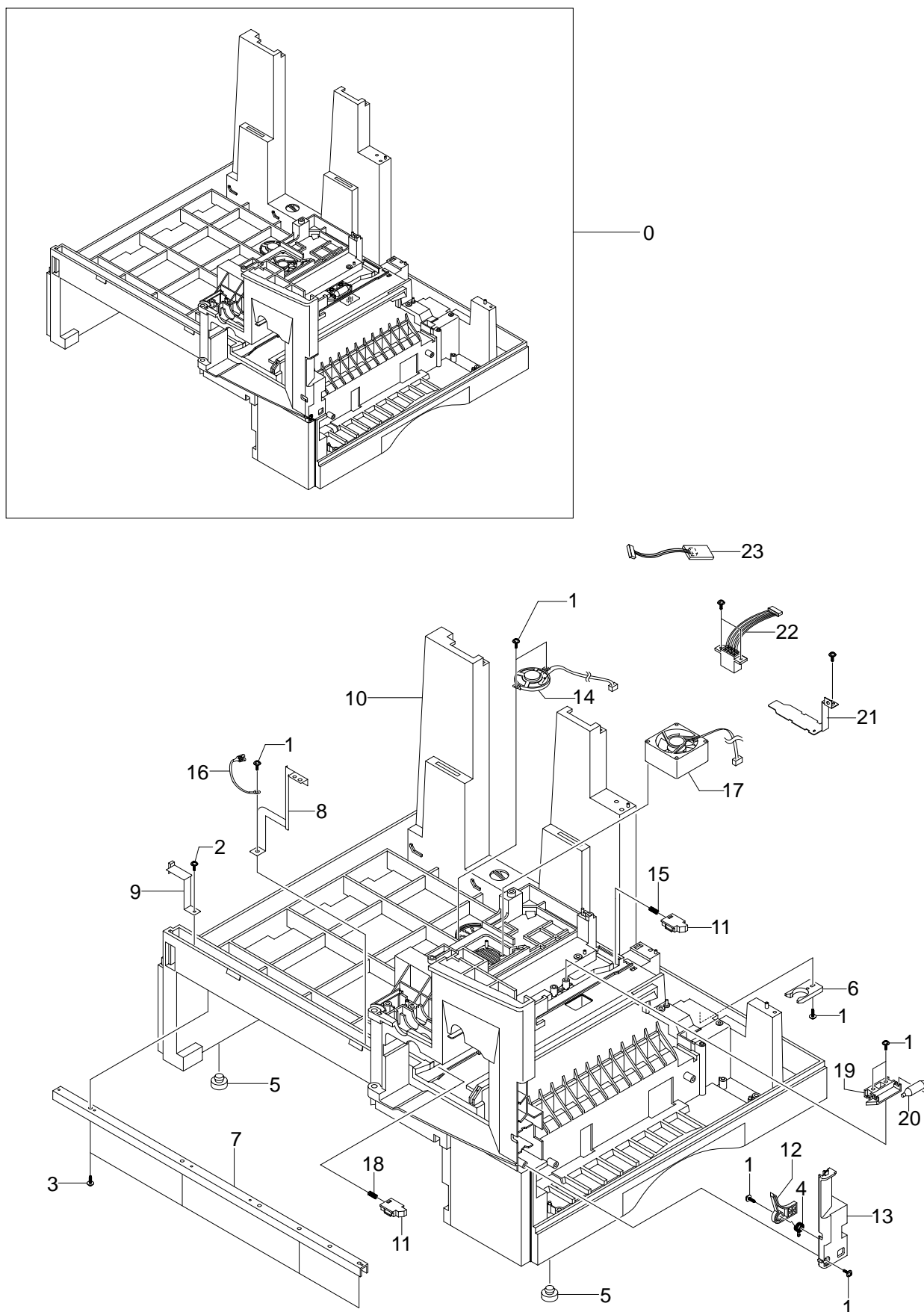
MP Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-MP ASS'Y	JC96-02182A	1	O	
1	SCREW-TAPTITE	6003-000119	2	O	
2	SCREW-TAPTITE	6003-000266	1	X	
3	RING-E	6044-000125	2	O	
4	SOLENOID-MP	JC33-00006A	1	O	
5	SPRING--CAM MP	JC61-00003A	1	O	
6	SPRING-PICK UP MP	JC61-00549A	1	O	
7	SPRING-KNOCKUP,MP	JC61-00483A	1	O	
8	IPR-BRACKET SOLENOIDE	JC70-00237A	1	O	
9	PMO-HOLDER CAM MPF	JC72-00055A	1	X	
10	PMO-GEAR P/U MPF	JC72-00056A	1	O	
11	PMO-ROLLER CAM.MPF	JC72-00761A	1	O	
12	PMO-ACTUATOR,MP	JC72-00767A	1	O	
13	PMO-ADJUSTER,MP	JC72-00768A	1	O	
14	PMO-CAM PICK UP,MP	JC72-00769A	1	O	
15	PMO-FRAME,MP	JC72-00770A	1	O	
16	PMO-HOLDER PAD,MP	JC72-00771A	1	O	
17	PMO-HOLDER SENSOR,MP	JC72-00772A	1	O	
18	PMO-HOUSING PICK UP,MP	JC72-00773A	1	O	
19	PMO-PLATE KNOCK UP,MP	JC72-00775A	1	O	
20	PMO-IDLE PICK UP,MP	JC72-41027A	2	O	
21	RPR-RUBBER PICK UP,MP	JC73-00089A	1	O	
22	RPR-RCT-PAD-PICKUP,MP	JC73-00090A	1	O	
23	RPR-PAD MP PLUS	JC69-00494A	1	O	
24	PBA SUB-MP SEN	JC92-01362A	1	O	
25	PMO-BUSHING PICKUP,MP	JC72-41364A	1	O	
26	A/S MATERIAL-PICKUP,MP	JC81-00427A	1	O	

8.11 Base Frame



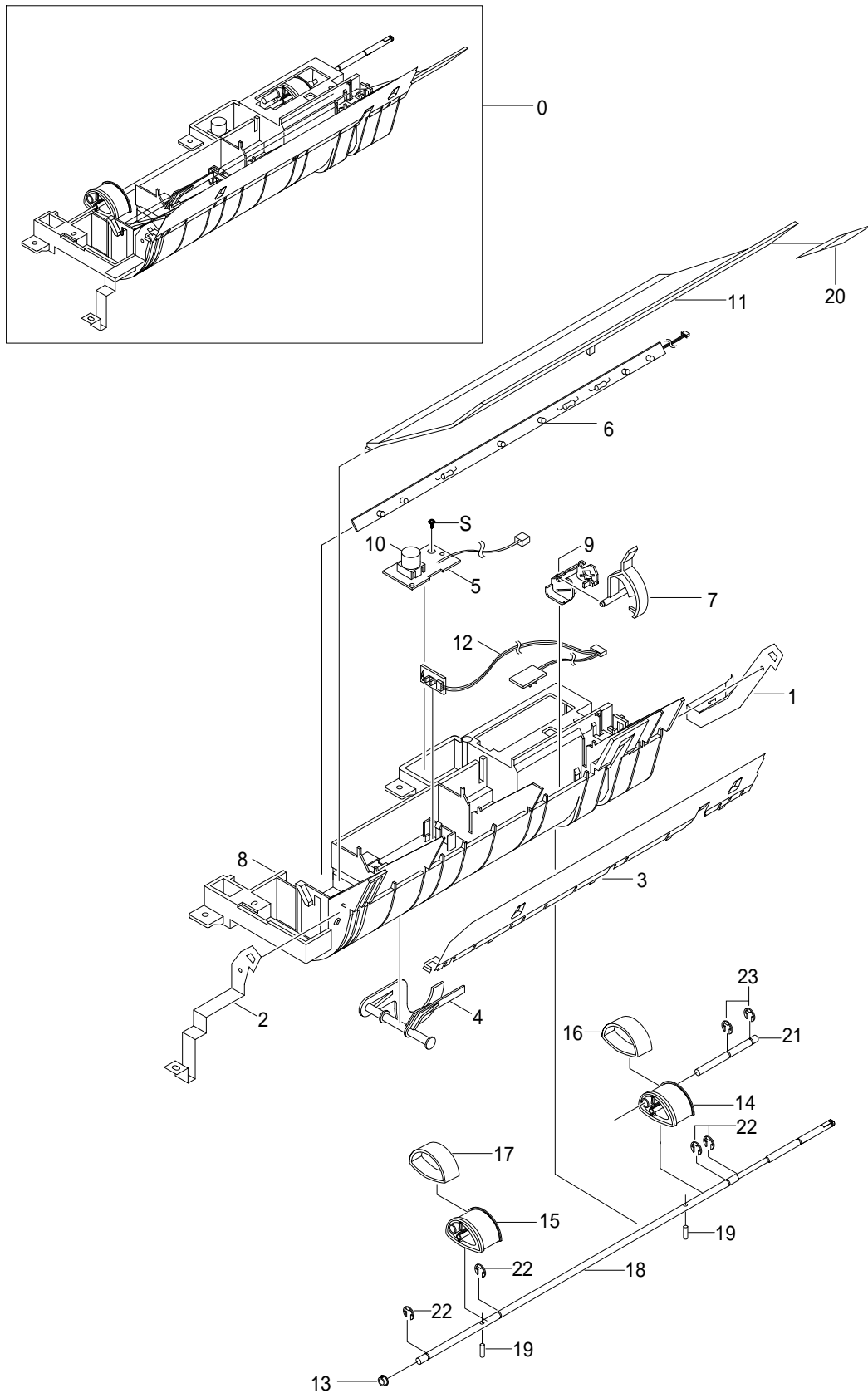
Base Frame Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-BASE FRAME	JC96-02958A	1	O	SCX-6320F
1	SCREW-TAPTITE	6003-000196	11	X	
2	SCREW-TAPTITE	6003-000269	2	X	
3	SCREW-TAPTITE	6003-001256	4	X	
4	SPRING ETC-TORSION	JC61-00486A	1	O	
5	FOOT-ML80	JC61-40001A	2	O	
6	HOLDER CATCH CST MC2	JC61-00857A	1	X	
7	IPR-CHANNEL BASE FRAME	JC70-00239A	1	O	
8	IPR-GROUND PLATE A(OPC)	JC70-00240A	1	O	
9	IPR-GROUND PLATE B(BASE)	JC70-00241A	1	O	
10	PMO-BASE FRAME	JC72-00779A	1	O	
11	PMO-BRACKET PUSH DEVE	JC61-00789A	2	X	
12	PMO-BRACKET SIDE OPEN	JC72-00781A	1	O	
13	PMO-COVER FRONT DUMMY	JC72-00785A	1	O	
14	ELA M/M-AUD SPEAKER	JC96-01607A	1	O	
15	SPRING ETC-DEVE REAR	JC61-00550A	1	O	
16	CBF HARNESS-OPC GND	JC39-00179A	1	O	
17	FAN-DC(CARDINAL)	JC31-00027B	1	O	
18	SPRING ETC-DEVE FRONT	JC61-00551A	1	O	
19	HOLDER-M ROLLER BOTTOM	JC61-00855A	1	X	
20	SHAFT DEVE BOTTOM	JC66-00684A	1	X	
21	IPR-GROUND PLATE SCF	JC70-00243A	1	O	
22	CBF-HARNESS-SCF	JC39-00082A	1	O	
23	PCB AIR TEMPERATURE	JC92-01568A	1	O	

8.12 Pick-up Ass'y



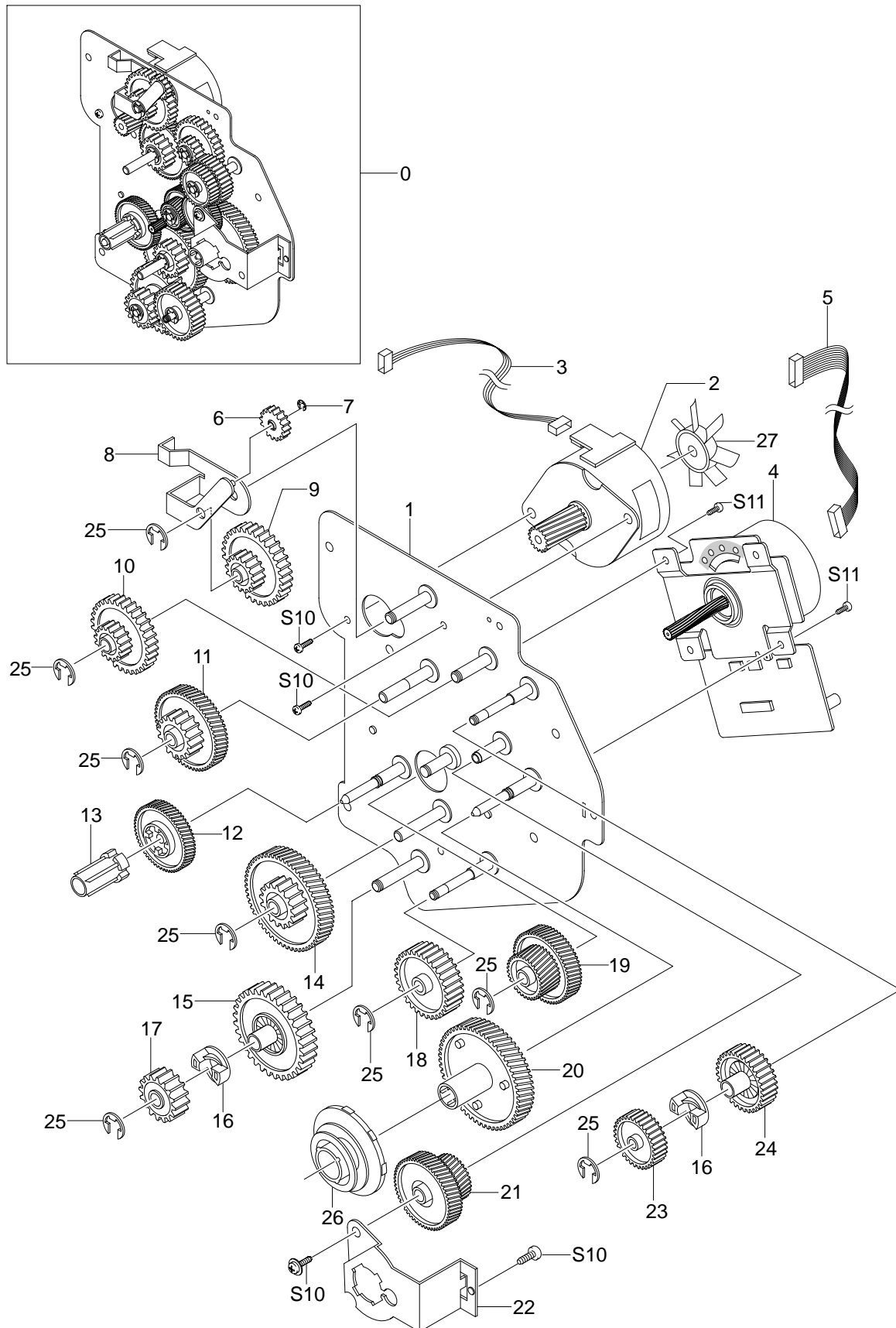
Pick-up Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-PICKUP PLUS ASS'Y	JC96-02715B	1	O	
1	IPR-GND FEED	JC70-00238A	1	O	
2	IPR-GND INPUT	JC70-00235A	1	O	
3	IPR-GUIDE INPUT	JC70-00222A	1	O	
4	PMO-ACTUATOR NO PAPER	JC72-01313A	1	O	
5	PBA SUB-TONER_TX	JC92-01359A	1	O	
6	PBA SUB-PTL	JC92-01361A	1	O	
7	PMO-FEED SENSOR	JC72-00721A	1	O	
8	PMO-GUIDE PAPER	JC72-00722A	1	O	
9	PMO-HOLDER SENSOR FEED	JC72-00726A	1	O	
10	PMO-LENS TONER SENSOR	JC72-00803A	1	O	
11	PMO-PTL PATH	JC72-00822A	1	O	
12	PBA SUB-FEED+P.EMP SEN.	JC92-01363A	1	O	
13	PMO-BUSHING_P/U,MP	JC72-41364A	1	O	
14	HOUSING-PICKUP LARGE	JC61-00822A	1	X	
15	HOUSING-PICKUP SMALL	JC61-00823A	1	X	
16	RPR RUBBER PICKUP	JC73-00145A	1	O	
17	RUBBER PICKUP SMALL	JC73-00163A	1	O	
18	SHAFT-PICKUP CST	JC66-00672A	1	X	
19	SHAFT PIN ADF	JB70-00168A	1	O	
20	SHEET-PTL PATH	JC63-00083A	1	O	
21	SHAFT-SUB-PICKUP	JC66-00596A	1	O	
22	RING-E ID4	6044-000125	4	O	
23	RING-E ID5	6044-000231	2	O	
S	SCREW-TAPTITE	6003-000119	1	O	

8.13 Drive Ass'y



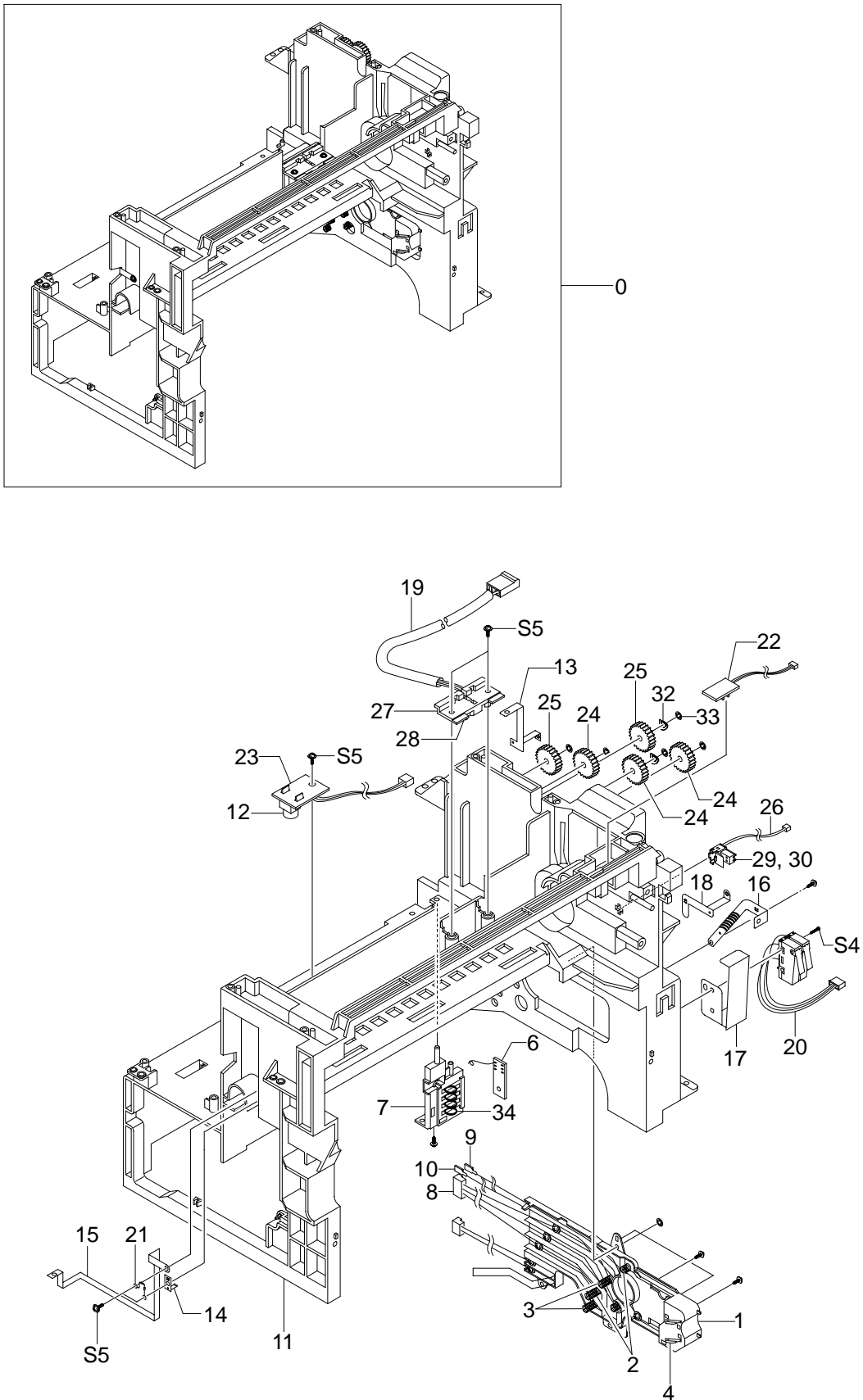
Drive Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-DRIVE ASS'Y	JC96-02957A	1	O	
1	IPR-BRKT MOTOR	JC61-00726A	1	X	
2	MOTOR STEP-MCK2(MAIN)	JC31-00020C	1	O	
3	CBF HARNESS-FUSER MOTOR	JC39-00337A	1	O	
4	MOTOR DC-MCK2(BLDC)	JC31-00030A	1	O	
5	CBF HARNESS-FEED MOTOR	JC39-00326A	1	O	
6	GEAR-EXIT/U	JC66-40211B	1	O	
7	RING-C	6044-000159	1	X	
8	IPR-LINK DUPLEX	JC66-00576A	1	X	
9	GEAR-SWING DRV(34/17)	JC66-00349A	1	O	
10	GEAR-31/19	JC66-00350A	1	O	
11	GEAR-71/23	JC66-00345A	1	O	
12	GEAR-DEVE DRV	JC66-00338A	1	O	
13	PMO-DEV/COUPLING	JC72-00743A	1	O	
14	GEAR-86/23	JC66-00337A	1	O	
15	GEAR-RDCN FEED INNER	JC66-00342A	1	O	
16	GEAR-HUB CLUTCH	JC66-00340A	2	O	
17	GEAR-RDCN FEED OUTER	JC66-00343A	1	O	
18	GEAR-FEED DRV	JC66-00348A	1	O	
19	GEAR_OPC_53/37	JC66-00580A	1	X	
20	GEAR-OPC DRV	JC66-00347A	1	O	
21	GEAR_OPC_55/31	JC66-00581A	1	X	
22	IPR-BRKT-BRAKE	JC61-00853A	1	X	
23	GEAR-FUSER DRV OUTER	JC66-00334A	1	O	
24	GEAR-FUSER DRV INNER	JC66-00333A	1	O	
25	RING-E	6044-000231	8	O	
26	MEC-BRAKE GEAR	JC75-00163A	1	X	
27	IMPELLA	JC72-00825A	1	X	
S10	SCREW-TAPTITE; M3	6003-000269	6	X	
S11	SCREW-TAPTITE; M4	6003-001149	2	O	

8.14 Main Frame Ass'y



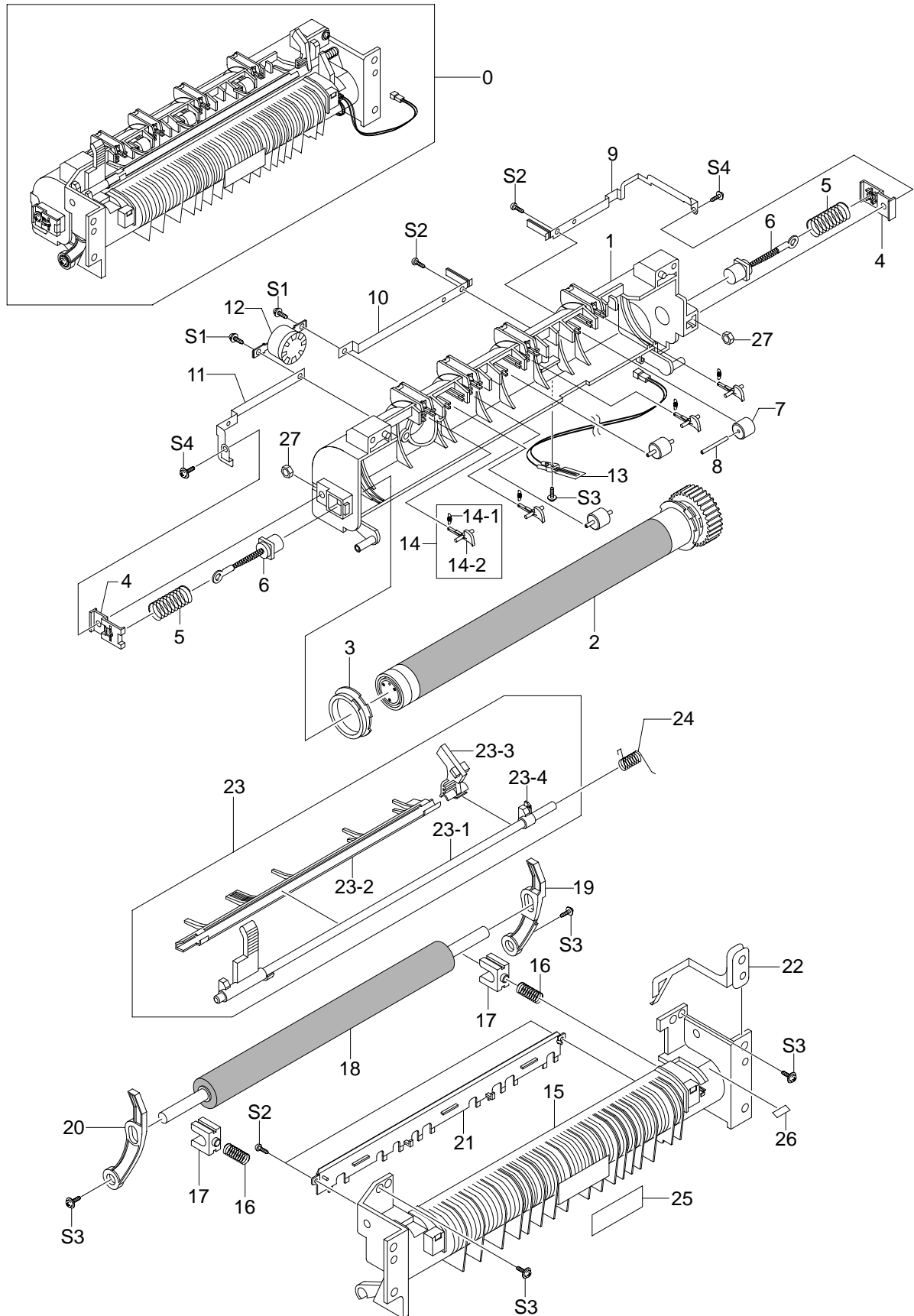
Main Frame Ass'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-FRAME MAIN ASS'Y	JC96-02959A	1	O	
1	PMO-HOUSING TERMINAL MC2	JC61-00723A	1	O	
2	IPR-TERMINAL BLADE	JC70-00269A	2	O	
3	IPR-TERMINAL SUPPLY	JC70-00270A	2	O	
4	IPR-TERMINAL TR	JC70-00271A	1	O	
6	PBA SUB TERMINAL	JC92-01567A	1	O	
7	HOLDER TERMINAL	JC61-00724A	1	X	
8	CBF-HARNESS-BLADE+SUPPLY+DEV	JC39-00170A	5	O	
9	CBF-HARNESS-MAIN-THV WIRE	JC39-00168A	1	O	
10	CBF-HARNESS-MAIN-MHV WIRE	JC39-00169A	1	O	
11	PMO-FRAME MAIN	JC72-00800A	1	O	
12	PMO-LENS TONER SENSOR	JC72-00803A	2	O	
13	IPR-GND EXIT	JC70-00214A	1	O	
14	IPR-GND OPC	JC70-00216A	1	O	
15	IPR-GND OPC BASE	JC70-00217A	1	O	
16	IPR-GROUND FUSER MC2	JC63-00409A	1	X	
17	IPR-GUARD C/O S/W	JC70-00218A	1	O	
18	IPR-GND TERMINAL	JC70-00219A	1	O	
19	CBF HARNESS-AC WIRE	JC39-00335A	1	O	
20	CBF-HARNESS-COVER SW	JC39-00360A	2	O	
21	CBF-HARNESS MOTOR	JB39-00017A	1	O	
22	PBA SUB-EXIT SENSOR	JC92-01364A	1	O	
23	PBA SUB-TONER_RX	JC92-01360A	1	O	
24	GEAR-EXIT/U,ID	JC66-40211B	3	O	
25	GEAR-EXIT,IDLE(Z17)	JC66-40964A	2	O	
26	CBF-HARNESS THERMISTOR_JOINT	JC39-00377A	1	O	
27	PMO-HOUSING TERMINAL	JC72-41010A	1	O	
28	IPR-TERMINAL FU	JC70-10961A	2	O	
29	PMO-CAP CONNECTOR L	JC72-00463A	1	O	
31	ELA HOU-MOTOR GND	JC96-01579A	1	X	
32	SPRING-CLUTCH	JB61-70922A	2	O	
33	RING-CS	6044-000001	6	X	
34	GRPUND-TERMINAL_CRUM	JC63-00333A	4	X	
S	SCREW-TAPTITE M3X6	6003-000179	1	X	
S	SCREW-TAPTITE, M3X8 BLACK, BINDER	6003-000119	17	X	

8.15 FuserAss'y



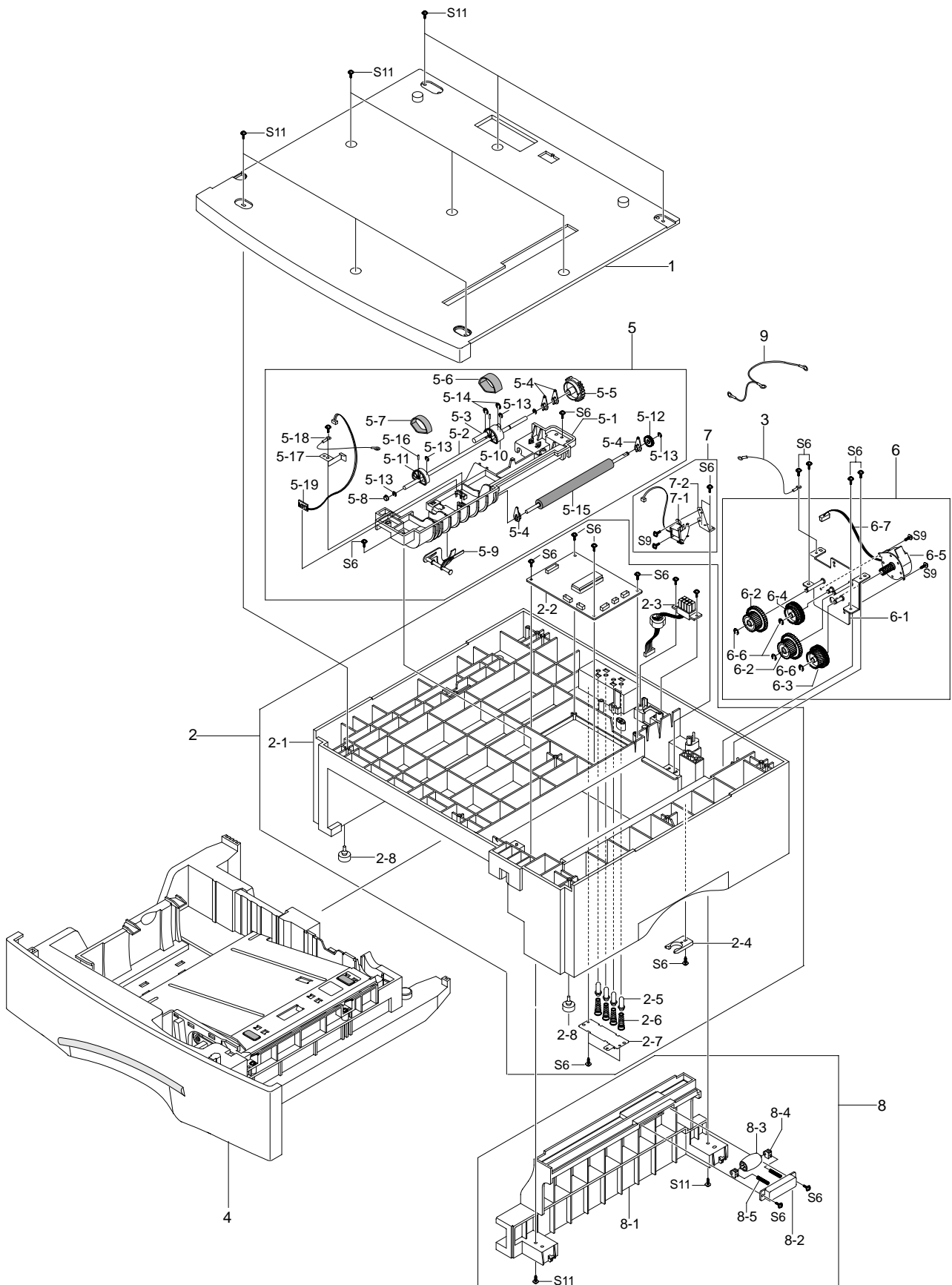
FuserAss'y Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA HOU-FUSER(110V)ASS'Y	JC96-03021A	1	O	▲ 110V
	ELA HOU-FUSER(220V)ASS'Y	JC96-03022A	1	O	▲ 220V
1	PMO-UPPER FUSER	JC72-01318A	1	X	
2	ELA HOU-HEAT ROLLER(110V)	JC96-03020A	1	O	▲ 110V
	ELA HOU-HEAT ROLLER(220V)	JC96-03023B	1	O	▲ 220V
3	BEARING-H/R L	JC66-10902A	2	O	
4	COVER-BRUSH	JC63-00353A	2	X	
5	SPRING-CS	6107-001172	2	O	
6	BRUSH-CARBON	JC67-00067A	2	O	
7	PEX-ROLLER EXIT F_UP	JC72-20901A	3	O	
8	IPR-PIN ROLLER EXIT	JC70-00064A	3	X	
9	ELECTRODE GEAR	JC70-00470A	1	X	
10	NPR-ELECTRODE M	JC71-00030A	1	O	
11	ELECTRODE-FRONT	JC70-00469A	1	X	
12	THERMOSTAT	4712-000001	1	O	
13	THERMISTOR-FUSER	JC14-00001A	1	X	
14	MEA UNIT-CLAW ASS'Y	JC97-01587A	1	O	
14-1	SPRING ETC-SEPARATION	JC61-70909A	4	O	
14-2	PMO-GUIDE CLAW	JC72-00376A	4	O	
15	PMO-LOWER FUSER	JC72-01316A	1	X	
16	SPRING ETC-P/R	JC61-00056A	2	O	
17	BEARING-PRESSURE/R	JC66-10901A	2	O	
18	ROLLER PRESSURE	JC66-00691A	1	X	
19	PMO-LEVER JAM R	JC66-00679A	1	X	
20	PMO-LEVER JAM F	JC66-00678A	1	X	
21	PMO-GUIDE INPUT	JC72-00817A	1	O	
22	IPR-GROUND FU	JC70-00259A	1	O	
23	MEA UNIT-ACTUATOR ASS'Y	JC97-01611B	1	O	
23-1	PMO-ACTUATOR EXIT	JC72-00810A	1	O	
23-2	PMO-GUIDE DUPLEX	JC61-00967A	1	X	
23-3	PMO-ARM ACTUATOR	JC72-00811A	1	O	
23-4	GUIDE REMOVE	JC61-00546A	1	X	
24	SPRING ETC-ACTUATOR CG	JC61-00485A	1	O	
25	LABEL(R)-CAU-HOT-FU	JC68-30928B	1	X	
26	LABEL(R)-HV FUSER	JC68-00407A	1	X	
	LABEL(R)-LV FUSER	JC68-00408A	1	X	
27	NUT-HEXAGON	6021-000222	2	X	
S1	SCREW-ASS'Y MACH	6006-001031	2	O	
S2	SCREW-TAPTITE	6003-000119	4	O	
S3	SCREW-TAPTITE	6003-000196	5	X	
S4	SCREW-MACHINE	6001-000067	2	X	

8.16 SCF



SCF Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
0	ELA UNIT-SCF(MC2)	JC96-03009B	1	X	OPTIONAL
1	PMO-COVER TOP SCF	JC72-00935A	1	X	
2	ELA HOU-FRAME-SCF(MC2)	JC96-03005A	1	X	
2-1	PMO-BASE FRAME-SCF	JC72-00793A	1	X	
2-2	PBA SUB-SCF	JC92-01614A	1	O	
2-3	CBF HARNESS-SCF_8P	JC39-00102A	1	O	
2-4	CAM-CATCH	JC66-00050A	1	X	
2-5	ICT-SHAFT HV LARGE	JC70-40912A	4	O	
2-6	SPRING ETC--HV LARGE	JC61-00031A	4	O	
2-7	IPR-PLATE GROUND(A)	JC70-00249A	1	O	
2-8	FOOT-ML80	JC61-40001A	2	X	
3	CBF HARNESS-GND	JC39-00228A	1	X	
4	MEA UNIT-CASSETTE	JC97-01736A	1	X	
5	ELA HOU-UPPER_SCF2	JC96-03007A	1	X	
5-1	PMO-GUIDE PAPER UPPER SCF	JC72-00936A	1	X	
5-2	SHAFT-PICK_UP CST	JC66-00672A	1	X	
5-3	SHAFT-PICK_UP SUB	JC66-00596A	1	X	
5-4	PMO-BEARING SHAFT	JC72-41191A	4	X	
5-5	GEAR-PICK UP	JC66-00326A	1	X	
5-6	RUBBER-ROLLER PICKUP	JC73-00145A	1	X	
5-7	RUBBER-PICKUP ROLLER_S	JC73-00163A	1	X	
5-8	"PMO-BUSHING_P/U,MP"	JC72-41364A	1	X	
5-9	PMO-M-ACTUATOR_NO PAPER	JC72-01313A	1	X	
5-10	HOUSING-M-PICKUP LARGE	JC61-00822A	1	X	
5-11	HOUSING-M-PICKUP SMALL	JC61-00823A	1	X	
5-12	GEAR-FEED (SCF)	JC66-40955A	1	X	
5-13	RING-E ID4	6044-000125	5	X	
5-14	RING-E ID5	6044-000231	2	X	
5-15	FEED ROLLER SCF MC2	JC66-00579A	1	X	
5-16	ICT-PIN ADF	JB70-00168A	2	X	
5-17	GROUND PLATE SCF	JC63-00194A	1	X	
5-18	CBF HARNESS GND STAR WHELL	JB39-00173A	1	X	
5-19	PBA SUB-EXIT SEN	JC92-01364A	1	X	
6	ELA HOU-MOTOR_SCF2	JC96-03006A	1	X	
6-1	BRACKET SCF MOTOR	JC61-00728A	1	X	
6-2	SCF GEAR 41/23	JC66-00578A	2	X	
6-3	OPC GEAR 53/37	JC66-00580A	1	X	
6-4	SCF GEAR 53/31	JC66-00577A	1	X	

SCF Parts List

SA : Service Available

O : Service available X : Service not available

No.	Description	SEC.Code	Q'ty	SA	Remark
6-5	MOTOR STEP-SCF (2K)	JC31-00020B	1	X	
6-6	RING-E	6044-000125	4	X	
6-7	CBF HARNESS SCF	JC39-00345A	1	X	
7	ELA HOU-SOLENOID_SCF2	JC96-03008A	1	X	
7-1	SOLENOID-PICK UP	JC33-00007A	1	X	
7-2	BRACKET CLUTCH SCF	JC61-00727A	1	X	
8	MEA UNIT-LOWER_SCF2	JC97-01883A	1	X	
8-1	PMO-GUIDE PAPER LOWER	JC72-00797A	1	X	
8-2	PMO-HOLDER IDLE ROLL16	JC72-00660A	1	X	
8-3	PMO-ROLLER IDLE (SCF)	JC72-01244A	1	X	
8-4	PMO-BUSH IDLE ROLL-SCF16	JC72-00658A	2	X	
8-5	SPRING ETC-PAD	JC61-70953A	2	X	
9	CBF HARNESS-SCF_GND	JC39-00370A	1	X	

MEMO



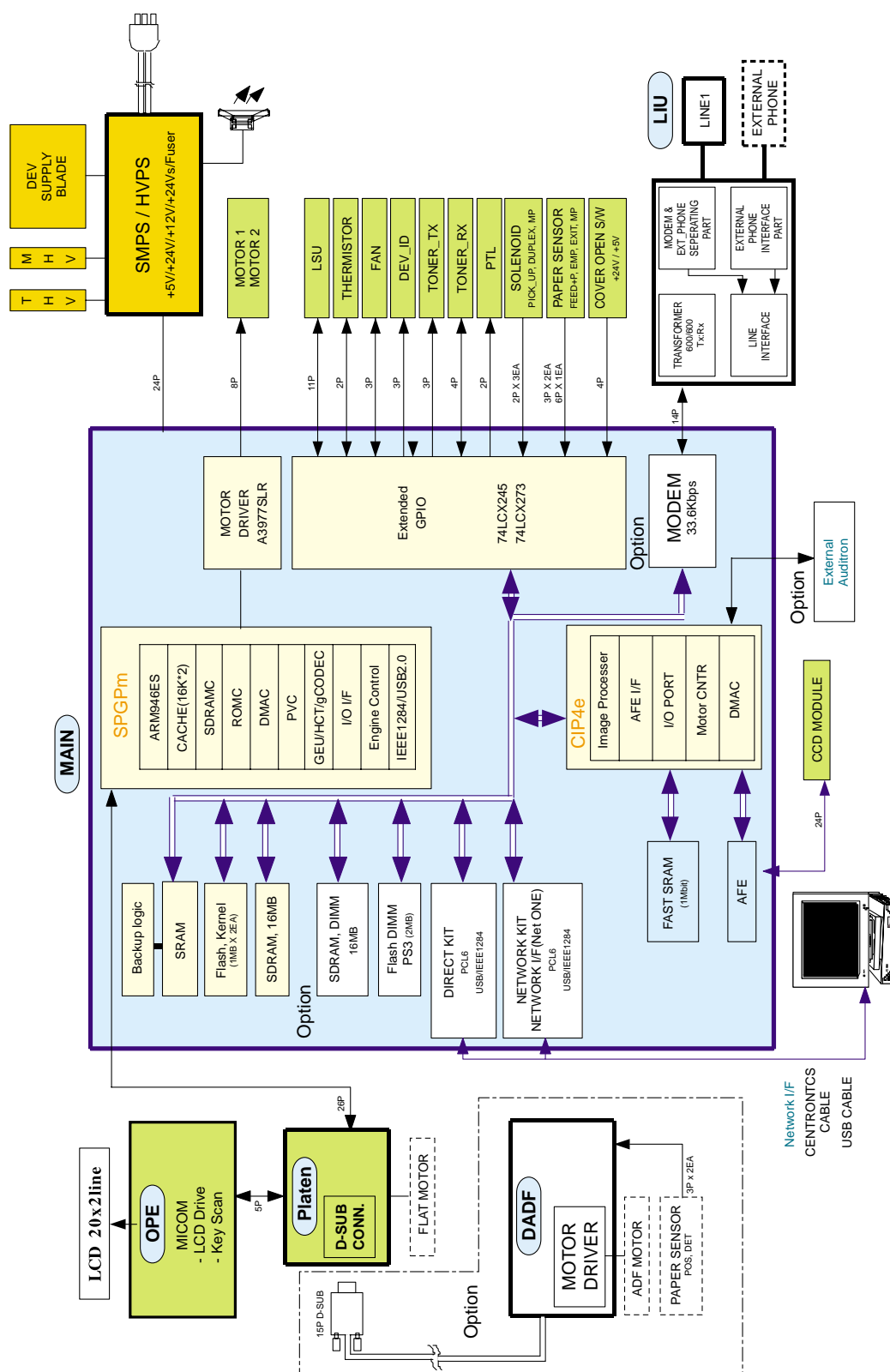
Appendix (Parts code)

Update: 9/10/04

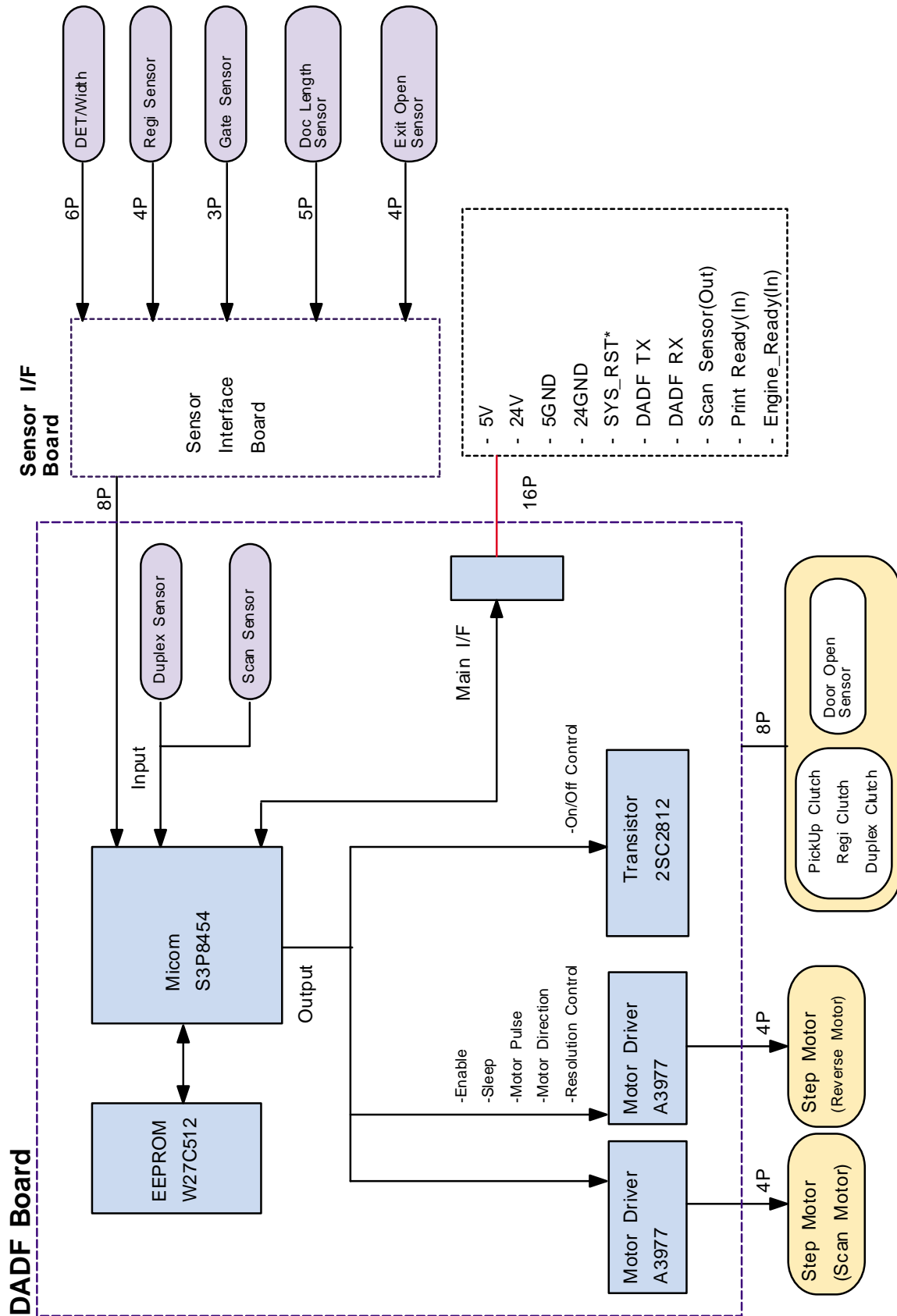
NO.	Buyer-Model Code	ELA HOU-SCANNER ASS'Y	ELA HOU-OPE COVER	COVER-M_OPE DOM	PBA SUB-LIU
1	SCX-6320F/XAA SCX-6220/XAA	JC96-03165B JC96-03217B	JC96-03166B JC96-03208B	JC63-00536B JC63-00556B	JC92-01587A -
2	SCX-6320F/XEF SCX-6220/XEF	JC96-03165E JC96-03217E	JC96-03166E JC96-03208E	JC63-00536E JC63-00556E	JC92-01587B -
3	SCX-6320F/XEG SCX-6220/XEG	JC96-03165D JC96-03217D	JC96-03166D JC96-03208D	JC63-00536D JC63-00556D	JC92-01587B -
4	SCX-6320F/XET SCX-6220/XET	JC96-03165F JC96-03217F	JC96-03166F JC96-03208F	JC63-00536F JC63-00556F	JC92-01587B -
5	SCX-6320F/XEU SCX-6220/XEU	JC96-03165B JC96-03217B	JC96-03166B JC96-03208B	JC63-00536B JC63-00556B	JC92-01587B -
6	SCX-6320F/XEV SCX-6220/XEV	JC96-03165G JC96-03217G	JC96-03166G JC96-03208G	JC63-00536G JC63-00556G	JC92-01587C -
7	SCX-6320F/XIL SCX-6220/XIL	JC96-03165A JC96-03217A	JC96-03166A JC96-0A208E	JC63-00536A JC63-00556A	JC92-01587A -
8	SCX-6320F/XSA SCX-6220/XSA	JC96-03165B JC96-03217B	JC96-03166B JC96-03208B	JC63-00536B JC63-00556B	JC92-01587A -

9. Block Diagram

9.1 System Block Diagram

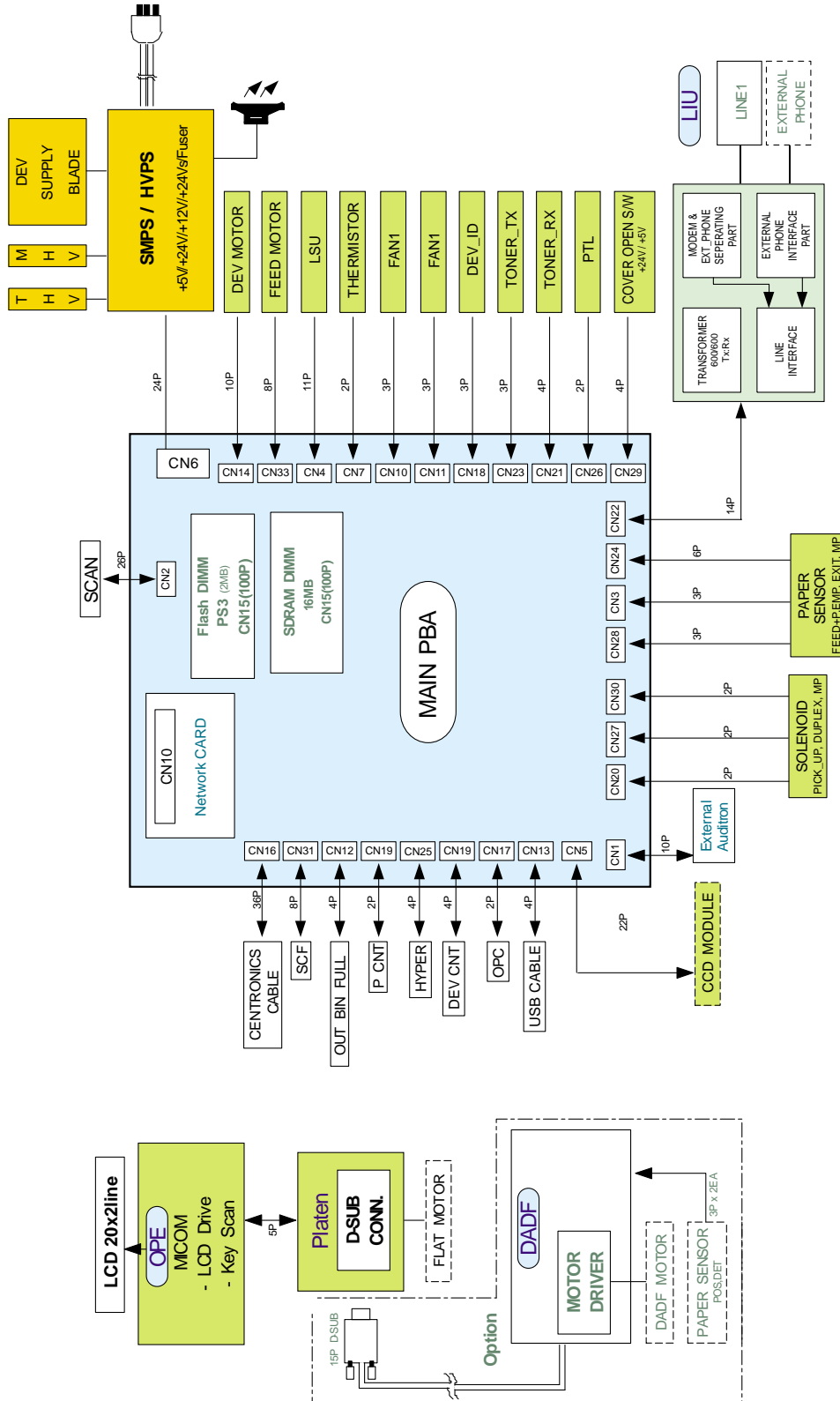


9.2 DADF Block Diagram

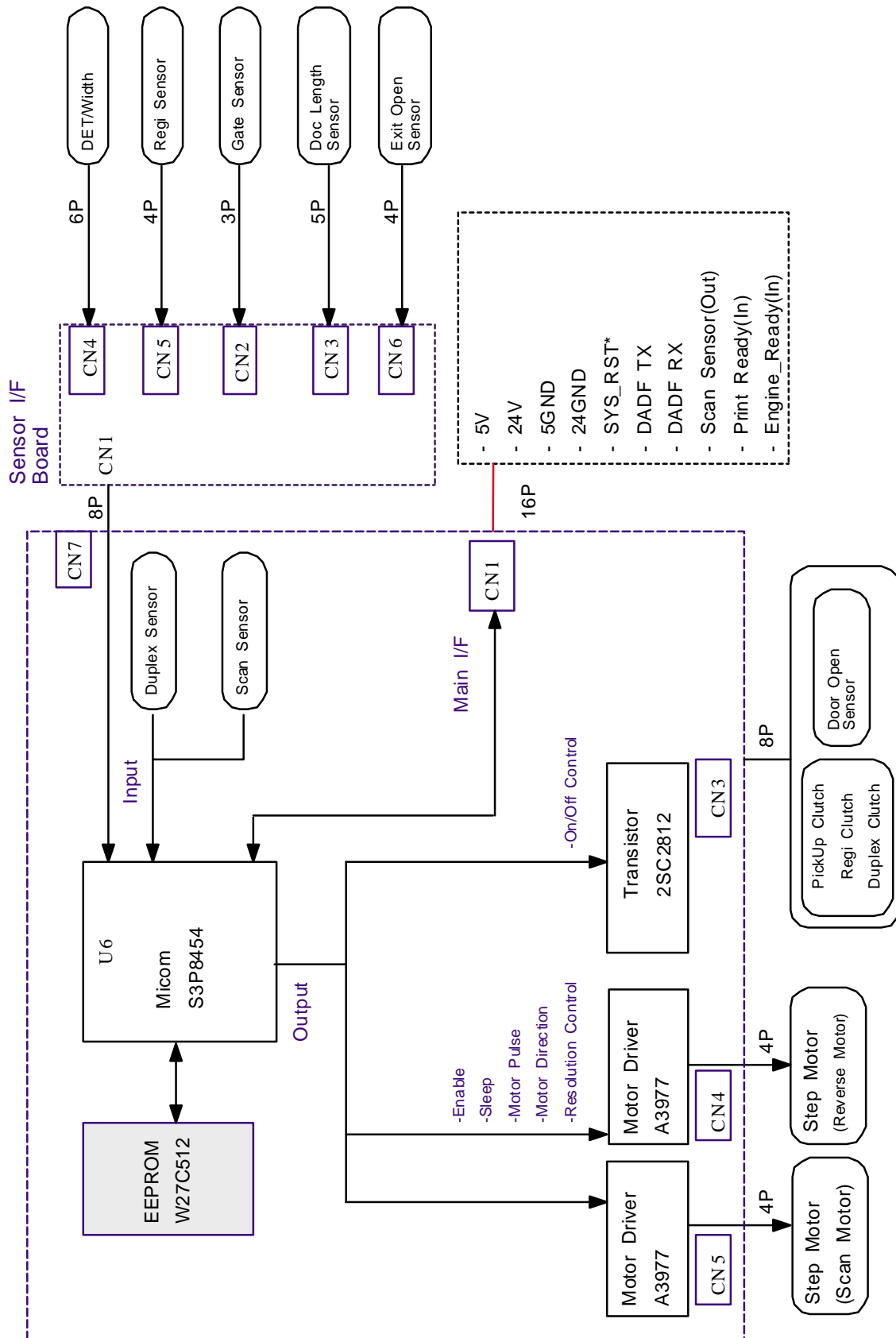


10. Connection Diagram

10.1 System Connection Diagram



10.2 DADF Connection Diagram





This service manual is also provided on the web,
the ITSELF system Samsung Electronics Co., Ltd.
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